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To Improve the Soil and the Mind.

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Functions of the Leaves and Roots of Plants.

A growing plant gains a new mouth and stomach with every additional root and new leaf. The moisture of the soil, which forms the sap of the plant, is taken into it by the extremities of the roots, or rather by the spongioles which terminate the ends of the fibrous roots. These possess the power of absorbing and selecting the appropriate food required for each variety of plants. At least, we cannot on any other principle, so well assign a plausible reason for the many and varied phenomena in vegetable life with which we are so familiar. As a simple illustration of this, we will refer to chemical analysis.

The straw of wheat requires much silica in its composition, amounting in the ash of good wheat straw to over 28 per cent, while in the straw or haulm of the field bean there is less than 2½ per cent. of silica. In the ash of the stems and leaves of beans there is 16½ per cent. of potash, while the potash in the ash of wheat straw is less than one per cent. Why this difference of mineral matter in the two plants? We all know they can be successfully grown side by side in the same field. Each different plant selecting from the soil just so much and no more, of the several soluble inorganic substances as are required for the perfection and maturity of each particular variety or species of plant. All the various phenomena of nature are the results of fixed laws, and no other reason can be assigned for their existence, than the will of the Creator—He hath so ordained it.

The fluid taken from the soil by the roots of a plant, consists chiefly in water, holding in solution some of the gases and minute portions of saline and earthy in-

gredients, such as potash, soda, lime, silica, &c. These soluble substances in the water or sap, as it rises into the stem and branches of the plant, for aught we know, may be gradually undergoing a series of changes from the time it enters the roots till it passes into the leaf. In the leaf we know it is to experience various important changes or modifications.

The nearly crude sap in the leaf is subjected to the process of exhalation. By carefully conducted experiments, it has been pretty clearly ascertained, that of the whole amount of water taken up by the roots of plants, about two-thirds of it passes off by exhalation, or evaporation by the leaves. The amount of water daily evaporated by large leaved plants, like the cabbage, pumpkin, grape, and sunflower, especially when under the influence of a warm, dry atmosphere, aided by the direct rays of the sun, is much greater than some persons may be aware of. Hales made an experiment with a sunflower three feet high, inclosed in a vessel, which he kept for fifteen days; and inferred from it, that the weight of the fluid daily exhaled by the plant was twenty ounces. Mr. Everett, in his address at Buffalo, stated there had grown "seven millions of counted leaves on a single tree." If Hales' three feet sunflower, with its dozen leaves, exhaled twenty ounces of water per diem, how many pounds will daily be evaporated by the "seven millions of leaves on a single tree?" Can any of our juvenile readers figure it out for us?

From the foregoing it will be seen that one of the important functions of the leaves of a plant, is to carry off the surplus water—to boil down, as it were, the crude, dilute sap, holding in solution the various salts or mineral ingredients that make up "part and parcel" of all plants—and thus, by a greater concentration of the mineral ingredients held in solution by the sap, they are more fully prepared to enter into the various chemical combinations with carbon, and the other organic constituents which make up the entire and perfect plant in all its varied parts.

But the leaves of plants, besides their exhaling power, have another important function to perform in the phenomena of vegetable life. It is through the agency of the leaves that most of the woody and other carbonaceous structures of plants are derived. Carbon in one form or another, is the leading combustible substance in all fuel generally used—in wood, coal, charcoal, oil, rosin, pitch, &c. While burning, the carbon unites with the oxygen of the atmosphere, resulting in carbonic acid—and every cord of wood burned restores

to the atmosphere just carbon enough to grow another cord. By passing into the air, the carbon is not lost; there is no such word as *lost* in the whole vocabulary of nature. Carbonic acid gas, though much heavier than common air, is by the great law of gaseous diffusion equally diffused through the atmosphere, composing about 1-2500th part of it.

When sugar or salt is mixed with water, it dissolves and becomes invisible—when carbon is burned, it is in fact dissolved in oxygen gas, and the carbon becomes invisible. By evaporating the water holding the sugar or salt in solution, we again obtain the sugar and salt in precisely the state they were in before solution. But we cannot by any known chemical or other process, obtain carbon from carbonic acid in the form of wood, oil, or starch. To do this requires the more efficient agency of vegetable chemistry.

In the economy of nature, it has been so arranged that the healthy leaves of plants in sun light, can and do inhale from the air with which they are surrounded, the carbonic acid that seems so sparsely mingled with it—to do this, the leaves have been endowed with very nice discriminating powers—and further, they have the power of decomposing the carbonic acid, that is, separating the oxygen from the carbon, which they retain, and returning to the atmosphere the oxygen in a pure form.

When a fresh leaf is examined by a microscope, its whole surface is seen to be covered with minute pores on each side of the leaf; each of these pores is a species of mouth, intended to receive food or to give off something that the plant no longer requires. A high magnifying power discovers more than 100,000 openings in a square inch upon the surface of some leaves; others have not more than 6 or 700. Analogous to this is the skin of animals, which is perforated with a thousand pores in the length of an inch, through which the insensible perspiration passes.

It is no more marvelous that the leaf of a plant can take in the carbonic acid of the air, separate it, and retain the carbon and reject the oxygen,* than it is that a grown up boy can take into his mouth a ripe peach and separate the stone and pulp, and swallow the pulp and spit out the stone. From whence did the boy derive his ability to pass the pulp of the peach through the gullet into the stomach? From the same Being that endowed the leaf with its inhaling and exhaling and separating powers. One of these cases is as much a miracle as the other.

To all land animals, when alive, has been given the power of inhaling atmospheric air. While in the lungs it undergoes a chemical change—the oxygen inhaled combines with carbon derived from the food, and is exhaled from the lungs as carbonic acid. This process goes on continually, and alike successfully in the wise man and in the idiot, in the sane and insane, asleep or awake; and man is almost as unconscious of this operation as the brute; and the brute is as unconscious of it as is the leaf, in reversing the order of this operation.

From the foregoing physiological views, we are enabled to draw some useful and practical hints in farm culture.

As it is through the agency of the roots of plants

* In 22 lbs. of carbonic acid, there is 6 lbs. of carbon and 16 lbs. of oxygen.

that they derive their moisture and earthy constituents, and about one-third of their carbon, it is reasonable to suppose the greater the number of roots a plant has, the more rapid and larger its growth; for at the ends of the rootlets are placed the mouths of the plant for supplying it with that portion of its food derived from the soil; therefore a deeply worked and finely pulverized soil is much more favorable to a luxuriant growth of plants (other conditions being equal,) than a hard shallow-worked soil. In the well prepared soil the roots can freely penetrate every square inch of it in search of food and moisture everywhere disseminated through it, while the roots in the hard ill-prepared soil will be few in number, feeble and stunted, and unable to supply the plant with food necessary to a luxuriant growth. After a farmer has prepared his land in the best possible manner for a corn crop, can it be for his interest, at the second and third time hoeing it, to run the horse plow or other deep-stirring implement between the rows, so as to sever or cut off a large portion of the roots of his growing corn? We have witnessed such a performance many a time. Corn under such circumstances may, in favorable seasons, throw out new roots, and in part restore the loss, and a tolerable crop may be harvested, but it is our impression that such a course of culture not only retards the growth, but lessens the amount of the crop. Why does the cabbage and turnip plant wilt and droop when transplanted? 'Tis in consequence of having lost a portion of their roots, and the exhalation of moisture by the leaf is greater than its supply by the mutilated and reduced number of roots.

Every one that has transplanted evergreen trees knows how important it is to preserve the fibrous roots and keep them moist, if they expect to be successful in planting them out.

Cut off the root of a maple tree in "sap time," and the sap will flow from the severed root as freely as it will from an augur hole bored into the body of the tree. Sever the roots of growing corn, and the sap will ooze from the cut roots so as to render the soil about them quite wet. This loss of moisture by the roots, with that escaping by evaporation by the leaves, causes the corn to wilt, and in very warm and dry weather, we have known the leaves to become completely dried under such management, while adjoining rows of corn, not having been disturbed by the plow, remained unscathed.

As already observed, by the leaves the surplus water is exhaled, and carbonic acid inhaled and decomposed, and doubtless there are other important chemical combinations and changes effected by and in the leaf. If so, is it good policy to pluck from growing cabbages, beets, turnips, carrots, and other succulent plants, a portion of their leaves for feeding cows, hogs, &c.?

Is the quality of the grape improved, and its maturity hastened by removing a portion of the leaves from the fruit-bearing branches of the vine a month or so before the usual time of the ripening of the fruit? We have seen this plucking off the leaves of a grapevine performed more than once, from the mistaken idea that the fruit would be larger and earlier by the removal of a goodly portion of the leaves of the vine.

Will the crop of corn be as heavy and valuable, if the stalks are cut when the kernels are in the milk, as

if left uncut, or until they had become dry? Says R. L. Allen:

"The stalks of corn ought never to be cut above the ears. The sap which nourishes the grain is drawn from the soil, and passing through the stem, enters the leaf, where a material change in the sap takes place. This prepares the sap for condensation and conversion into the grain. But the leaves which digest the food for the grain are above it, and it is while passing downward that the change takes place. If the stalk be cut above the ear, nourishment is at an end—the corn may become firm and dry, but it will not increase in quantity; while if cut near the root, it not only appropriates the sap already in the plant, but it also absorbs additional matter from the atmosphere, which contributes to its weight and perfection."

Culture of Beans.

The culture of white beans as a field crop is of increasing extent and importance, and though not as remunerative as formerly, is still a paying branch of farming. Prices have declined largely within the last two years, yet a fair demand will always exist, depending to some extent on the comparative price of potatoes, (for which beans are sometimes substituted in family consumption,) the success and amount of the crop, and several minor influences. But, leaving generals, let us proceed to some particulars on their culture.

Beans may be planted with success later in the season than almost any other spring crop. They fill up, therefore, very conveniently the few days between the spring seeding and the hoeing and haying which follow, though their after culture comes in a more hurrying season to the farmer. A friend, experienced in bean-growing, remarked to the writer, that he "planted corn until it was too late to plant more, and then put in his bean crop, which filled up the time until his corn wanted hoeing." The middle of June is full late for planting most varieties, for it is essential that the crop ripens before the frost comes. Frosted beans, even if in great part uninjured, give much trouble in harvesting and curing, and are not as readily marketable as a purer article.

The soil most suitable for beans, is a warm light loam, not too rich, and yet of medium fertility. On rich soils the growth runs mostly to vines; on wet soils they incline to rust, and the product is of an inferior character. Probably the most favorable conditions for bean-growing, is a sandy loam well swarded, which is turned over immediately before planting, harrowed down, and the beans then drilled in. Such soils are not apt to be weedy—and many weeds in the cultivation of beans are equivalent to much work, or a choked growth of the crop. Beans demand clean culture, and will repay the same, but the time when they need hoeing most, is generally in the hurry of haying and harvest, so that any care to lighten this part of the work is not lost to the farmer.

Of preparation and planting we have already incidentally remarked. Let the plowing be done but a short time before planting, and, if a hand planter or hoes are to be used for the work, mark out two or two and one-half feet apart, planting across about half the distance. About five beans per hill will be the proper number. In drills, single beans, two inches apart, are sufficient, and horse planters can be regulated to deposit them with sufficient accuracy. The covering should be from one and a half to two inches of mellow soil—sods and stones will not answer.

Cultivation or hoeing should never be given in wet

weather, or when the leaves are wet with dew, so that dirt will stick to them. Their greatest insect enemy is the grub or cut-worm, against which there is no effectual preventive.

The profit of bean culture is influenced in a great degree by perfect or imperfect ripening, and a successful harvesting and curing of the crop. If wet weather occurs when the beans are fit to pull, or while they are drying in the field, more or less are wasted, and another portion discolored so as to injure their sale. If all do not ripen at once, there is loss from the same cause, or from injury by frost, of which we have previously spoken.

In regard to pulling and curing, different methods prevail. Last season—a wet one in our vicinity—we secured a crop of three acres in excellent order, by pulling and stacking around fence stakes. Make a hole with a crowbar, and set the stakes firmly in the ground. Place a little straw underneath to keep them from the ground; then lay each armful of beans, as pulled, with the roots against the stake. Make the stacks six or eight feet high; they may stand for weeks in the field until thoroughly dry. After a few dry days, draw in and thresh at once, securing the straw, as it is of high value for foddering sheep. In dry seasons a less laborious method may be followed. Throw five rows into one, as pulled, let them dry, and then draw in. Crops are often secured in good order in this way.

As to varieties, the "medium white bean" stands in good repute—ripens early and evenly, and cures well. A new kind, somewhat resembling it, called the Mountain Cranberry, is very early, yields well, and is in good demand, both for seed and culinary purposes. It is said to command twenty-five cents more per bushel for the latter use in the New-York market.

Improvement of Grass Lands.

"A good subject for discussion in the columns of the GENTLEMAN," says a friend coming in as we finish the line above written.

"Why so," we ask, willing to get his ideas of the matter before giving our own.

"Because it is one neglected both by farmers and their prompters of the agricultural press. Grass grows almost every where without our care. So our meadows and pastures get but a small share of the attention given to other crops."

"Undoubtedly, though labor bestowed in their improvement is as profitable as any expended upon the farm. A large part of the farming land of the country is employed in the production of forage and many an acre needlessly so."

"Yes, because many an acre of meadow gives a ton or so of hay, which might give three or four, and many an acre of pasture furnishes scanty picking for a cow, which might be crowned with luxuriant herbage! What a waste of land, too, for what profit can be derived from devoting that valued at from \$50 to \$100 per acre, to hay or grazing, unless some adequate return is received."

"You would have the grass crop, concentrated, would you—a ton of hay grown on a few rods, instead of scattered over the whole acre?"

"Yes; so now give us your hints of the 'How to do it,' as practically as may be."

1. Our permanent grass lands, are in large part located on those portions of the farm unfitted for tillage—rough or swampy—full of low places, too wet for any cultivated grasses to thrive there. Or it is cold, springy land—or that with retentive subsoil—always full of stagnant water except in very dry seasons, and then baked and hard. Such soils are in grass because they will produce nothing else without improvement, and the quantity and character of the herbage show that the present product is of very little value.

Drainage is the first thing needed. We must get rid of all standing water as soon after it falls as may be. However well such land may be seeded in the first place, if water remains on the surface late in spring, the cultivated grasses soon give way to coarser and nearly worthless herbage, or linger with a sickly and stunted growth of very little value for feeding purposes.

A well-drained soil is as much better for growing grass, as it is for any other crop. Ten to one that it is the first step to be taken for the improvement of grass land. Let us get rid of all surface water at any rate—we shall soon see where there is need of more thorough work.

2. More attention to *seeding* would go far in the improvement of grass land. Nature does much, but man can assist and direct her operations. Many a meadow and pasture is self-stocked—it may be to grass, but more likely many weeds claim their right to a foothold there. Had grass seed—and enough of it—been sown, it would have left no room for weeds, especially if the land had received proper culture and preparation. There is no economy in stinting grass seed—unless we call it economy to save a dollar here and lose ten in the future crop.

In seeding we may improve our grass land by suiting variety to the soil and the end desired. There are many kinds of grasses in their prime for different portions of the season; by a due mixture of these we may have fresh, green pastures from early spring until the close of autumn.

3. *Cultivation* and *manure* would work wonders in the improvement of the grass crop of the country—a rich deep soil, and such alone can produce a large growth of hay or pasture. That preparation of the land which gives the best grain and root crops, will give the greatest grass crop, or will best prepare the land therefor. On a rich, deep and porous soil, drought has very little effect—on a poor, shallow and hard one, the grass or other crop always suffers severely from any lack of rain.

Land lying long in grass needs repeated dressings of manure. There is no occasion for plowing up our grass lands half as frequently, if we would only give them some fertilizer, like composted barn manure, ashes, plaster, bone dust, guano, &c., every two or three years.

We have spoken mainly of the general improvements wanted, and may now leave the subject for a while to the consideration of our readers. Will they give us their practical experience bearing upon the question before us—one of the most important in the whole round of productive farming.

THE WRITER who uses weak arguments and strong epithets, makes quite as great a mistake as the landlady who furnishes her guests with weak tea and strong butter.

A Tidy Door-Yard and a Productive Garden.

MESSRS. EDITORS—How many of your readers have ever testified their gratitude to you and to Mr. EDGERTON, for that excellent article which appeared in the *Cultivator* for February, 1855, under the heading, "How to Enrich a Garden." Probably but few have given expression to their gratitude or their sense of its value, but many, I doubt not, have felt grateful, and would willingly acknowledge their appreciation of its value and utility. I am inclined to think this highly probable in consequence of having found one of the readers of your monthly for that year, exceedingly enthusiastic in the oral expression of his great indebtedness to that article for information and hints which have been of much value to him during the three seasons since.

After a trial of the method reported in that article for some time, he introduced a few improvements or modifications as circumstances suggested them, and these he would like to have submitted to your readers, as he thinks they may be useful to some by aiding them to contrive some plan, whereby they may at once save their slops from being wasted, keep their door yards tidy and free from disagreeable smells, and have an abundant supply of material for enriching their gardens, orchards, or other lands.

At first this follower of Mr. EDGERTON's hints and methods, adopted the same kind of receptacle for the slops of the house, as that mentioned in the article referred to, namely, a half-hogshead set convenient to the kitchen and wood-shed. He soon found, however, that there were two inconveniences about this arrangement; the first of which was, that it was not always convenient to empty it every night, sometimes from the ground being wet enough from rains, and sometimes from weariness or other causes. The other inconvenience consisted in the disagreeable stench arising from the tub in warm weather. In order to prevent these inconveniences, he adopted the plan of setting an oil-cask down into the ground, on the north side of the buildings, which situation, together with a cover, prevented the contents from heating, fermenting, and emitting bad smells for two or more days at a time, even in the hottest weather. Finding that all the slops, suds, &c., of the house could not be readily disposed of upon the garden, and convinced that they were too valuable to be thrown away and wasted, besides disfiguring the door-yard and causing some bad smell whenever thrown out on the surface, he now rakes up all the chips and dirt of the yard into a heap, convenient to the back door of the kitchen, adding several loads of dry muck, and has all the slops not needed for the garden, carried up to the hollowed out center of this pile, and there emptied. By this means he avoids all waste and all bad smells, and keeps his door-yard quite neat and tidy, and at the end of the warm season he has several loads of manurial matter, probably not greatly inferior to some guanos.

Like Mr. Edgerton, this gentleman takes the evening as the most appropriate season for distributing over the garden the contents of the cask, using a large watering can with a nose in preference to a pail and dipper. In warm weather, after repeated distributions of this liquid manure, he has found occasionally a disagreeable smell arising from the earth; but this, he says, is easily prevented or got rid of by hoeing or otherwise breaking

the surface crust, so as to cover the particles of manurial matter under the soil.

The above modifications and additions to the method originally proposed by Mr. Edgerton, are submitted to your readers in the hope of their proving useful to some, and as a token of gratitude for the many useful hints and facts received through your columns, and of a wish to contribute a little to the general store of knowledge connected with rural affairs.

OBSERVER.

Variation in Animals—"Improved Breeds."*

The causes, conditions, laws and limits of Variation, both in animals and plants, include a wide field of study and investigation. It is one too, having an important economical bearing upon life and its pursuits in general, and most especially concerning the science and practice of Agriculture. The paper before us considers the subject in a plain and systematic way. The unmistakable identity of species in every age, precluding the possibility of change and confusion, is conclusively shown. The most ancient mummies of animals and specimens of plants found by Egyptian antiquarians, (more than 80 kinds,) do not differ from the same kinds now; "the descriptions of animals as given by Aristotle are as true to nature as when he composed them, and the medical properties of plants are found to be the same when identified, as observed by the ancients."

We have not space to follow the interesting remarks upon Varieties, but there are one or two of the conclusions which they establish, that are of considerable value and importance. They are the following:—

XII. Perfection of breed is a relative term, implying different organizations for different purposes.

XIII. As fine breeds are introduced into this country more pains must be taken to protect and feed our cattle well and fittingly, or they will "degenerate" to the same stock.

XIV. Fine varieties, when protected, *do* give a greater product from the same amount of food than the coarse.

These deductions harmonize with the teachings of practice, and convey a lesson to the farmer as to the proper mode of improving his stock. The improvements which he desires to effect are such as will render his cattle, for example, more profitable, for the butcher, for the dairy, or for labor—or for all these purposes combined; but if *each object is kept distinctly and separately in view*, careful breeding from one generation to another will at length enable him to accomplish it more perfectly than if no such particular end is aimed at. Other breeders have, however, already accomplished much in these directions; and the farmer, by the infusion into his stock of such "improved blood" as already comes the nearest to his purposes, economizes time and labor, and is at once and at comparatively little expense, furnished with nearly what he wants. This is why we advocate the purchase of a bull of better breeding for the farmer's ordinary use, instead of his disregarding entirely, as is too often the case, the character which the sire is so certain to impress upon the progeny.

Improved breeds owe their present degree of perfection, whatever it may be, only to the skill which has been exercised in their selection, breeding and management for a number of generations and a long series of years. This

attention, we learn from the extract above, *must be continued* if we wish to retain the valuable qualities that it has placed within our reach, and careful attention to the selection, the wants, the comfort and the health of one's stock is thus shown to be not only the dictate of economy for the time being, but a matter of importance in the future, from the influence it exerts on the progeny as well as on the parent. Improvements may be *bred out* as fast or faster than they can be *bred in*. Until the average of care which our farm stock now receives, becomes much greater, it may be inexpedient to advise the maintenance of a herd or flock of pure improved blood for ordinary farm purposes; but, by beginning with grades—employing the services of an improved male to engraft upon "native" stock, and by degrees acquiring the habit of paying closer attention to their necessities and comforts, not only will our cattle and sheep be gradually and fundamentally bettered, but the farmer will be preparing to avail himself of breeds already rendered capable of giving with proper attention, the greatest product for a specified amount of food; and animals bred to this point, will then come into his hands to be improved, not to be deteriorated.

That the common sense of mankind agrees with these views, is shown by the fact that all efforts in every age, to better the stock of any kind or country, have been awarded the highest praise. Governmental breeding farms, in the absolute monarchies of Europe, do what it is left for private enterprise to do among us, and what is in England nursed and aided by the attention which the wealthiest and highest ranks, from Prince Albert down, spend so much time and labor to encourage. In promoting, where we properly can, the interests of breeders of fine stock, we do so in so far as we consider them identical with those of the farmer himself, and not a step farther. And the complaint which farmers sometimes make against Agricultural Journals and Societies, that they are mere organs of wealthy breeders, because it is becoming fashionable for rich men to spend their money in this way—is only justified when the limit above specified is passed over—when investment becomes mere speculation, and the advocates of any particular breed lose sight of their first object, that of benefitting Agriculture, in the secondary one of filling their pockets. Should this time come, we shall be as ready to denounce mercenary projects and misstatements on the part of breeders, as we now are to encourage a taste for Agricultural pursuits and improvements among the wealthy, instead of less beneficial if not absolutely hurtful ways of money-spending; to rejoice in the extension of popular sentiment in favor of all rural improvement, and to commend enterprise wherever it is judiciously directed.

GRINDING FEED.—"If a machine was invented to grind hay," says the London Farmer's Magazine, "the ground article would approximate in value to *un-ground* oats in producing fat and muscle." Chopping hay and stalks is the process that comes nearest to grinding, and relieves the animal of just so much labor as it takes to do it. Twenty-five pounds of dry hay a day is a good deal of work for the muscles of one pair of jaws, if they have the whole burden of its reduction to small bits and powder; this labor affects the whole system, like other labor, retarding the animal's growth and rendering more food necessary to supply the waste of its tissues. The same reasoning applies to grinding other kinds of feed for stock.

*The Origin of Varieties in Animals and Plants; a Lecture before the Farmer's Club of the Am. Institute, by Dr. WATERBURY.

Hungarian Grass Seed.

MESSRS. TUCKER & SON—I regret to see you persist that the Hungarian grass seed is no new thing, and that Mr. Thorburn of Albany, has it for sale at \$3 per bushel. I have received the genuine seed from various sources in Iowa and Illinois, in different parcels, and it has been uniformly the same in shape, size and color. I have also received a sample of what Mr. Thorburn sells for Hungarian grass seed,* and find it to be an entirely different variety of grass seed from my western supply. Mr. Thorburn's is of a lighter color, rounder and larger, like millet seed, and that I get from Iowa and Illinois is of an oblong shape. Will you please to state the evidence you possess, going to show that Mr. Thorburn has the genuine seed at \$3 per bushel. I cannot procure it from the west at less than about \$7 per bushel, including express charges, and if it can be bought in Albany for \$3, while I sell it rapidly at \$10 per bushel, it is time the public should know it, in order that they may purchase it at the lesser rate, as I have no desire to obtain anything above a fair price for the genuine seed. It is evident that either you or I are deceiving the public through our respective journals, and I am desirous of testing the discrepancy of accounts, so that the public may hereafter know what to depend on. T. B. MINER, Ed. Rural American. Clinton, N. Y.

We do not intend to "deceive the public," nor do we suppose Mr. MINER does, although he states that he is selling the Hungarian Grass Seed "rapidly at \$10 per bushel," while the same seed from Iowa is selling at Chicago, according to Emery's Journal of Agriculture of April 22, at "\$2 to \$3 per bushel," and Messrs. PEASE & EGGLESTON of this city, whose seed we know to be the genuine Hungarian from Iowa, advertise it at \$3.25 per bushel. But to the matter in hand.

There are three species of what are called "common millet," figures of which, copied from Loudon, are annexed.



In the above, *b* represents what is known as *Panicum miliaceum*—a variety which we have never met with, but which we are told is grown in some places in this country.

The Italian millet, *Setaria italica*, (*c*) was many years ago grown in gardens, under the name of "wreath grass," the heads having somewhat the appearance of

* This is a mistake. Mr. Thorburn does not sell it as Hungarian grass seed, but simply as "Millet seed."—EDS. CO. GENT

wreaths, and were used in floral and rustic ornaments. It has also sometimes, we believe, been grown as a field crop for its seed and for hay.

The German millet, *Setaria germanica*, (*a*)—sometimes called *Panicum germanicum*—is the one more generally known in this country for 30 or more years past. Of this species there are 3 varieties, varying mainly in the color of the seed—the yellow, white and purple grained. This is the species with which we consider the Hungarian Grass of Iowa, after a careful examination, to be identical. To convince others that such is the fact, we have had a head of the Hungarian Grass, a small bundle of which we received from Iowa last autumn, drawn and engraved, (Fig. 4.) No one can compare this with the reduced figure of the German millet, copied above from Loudon, without at once being convinced that the plants are the same.



Fig. 4.

To ascertain whether our views were correct, we enclosed some of the heads of the Hungarian grass received from Iowa, to SANFORD HOWARD, Esq., editor of the Boston Cultivator, than whom we know of no man better qualified to give an opinion on the subject. We annex an extract from his reply, from which it will be seen that Mr. H. raised the Hungarian grass from Iowa seed last year, and consequently has had a most favorable opportunity of comparing it with the German millet. He says:—

"I had seed of the 'Hungarian grass' from Iowa last spring, from which I raised plants, and I also received from Mr. WILSON, of the Iowa Farmer, a bundle of the grass. Therefore I know it is the same thing, [German millet,] which has been more or less cultivated here for upwards of thirty years, and probably from the first settlement of the country.

"The heads which you send are small, probably from the crop to which they belonged standing thickly on the ground. It was so with the bundle sent me by Mr. Wilson. But I raised some much larger. Where it has plenty of room, the head attains much more size. It was from a head produced under such circumstances, that the figure given by Mr. FLINT in his work on Grasses, was drawn. I think he told me it was from seed sent out by the Patent Office as Hungarian millet. At any rate, I have compared some of the same kind with that produced from the Iowa seed, and they are the same.

"The chief difference in the varieties of German millet is in the color of the seed—some being white, some yellow, and some purple. They will all mix as readily as varieties of Indian corn. In the specimen you sent there are some purple seeds, and it is so with all I have ever seen from Iowa, showing that there is a mixture of kinds."

How to Improve Soggy Potatoes.

At this season of the year potatoes are very liable to be moist and soggy after boiling, and many a good dinner will be spoiled on account of the bad potatoes. A simple remedy for this is the following:—After the potatoes are sufficiently boiled, and the skins taken off, place them in a dry cloth, and express the moisture by a slight wringing; they will then appear mealy, and taste as well as the best Hibernians.—Sci. American

Clover Huller and Cleaner.

J. B. Van Buren, N. Y., inquires "if there is a clover machine that will thrash the chaff from the stalk and clean the seed at one operation—what the expense, and how many bushels it will clean in a day, and where it can be procured?" We give herewith a cut of a Clover Machine manufactured by Emery Brothers of this city. It is preferable, if not absolutely necessary, to put the clover through an ordinary threshing machine before it is submitted to any Huller, in order to separate the heads from the stalks, for the seed is so small, and requires so much rubbing to get it out of the chaff, that to put stalks and all into a machine at once, would probably crack the seeds and render them valueless. In the Emery machine, graters are used like a coarse file, which open the cell in which the seed is contained, and squeeze it out—the fans and screens attached serving to clean it thoroughly. All the best seed will be separated by once putting it through, but by gathering up the chaff that falls nearest the machine for a second operation, a further quantity of seeds may be detached, more likely, however, to include those that are immature or blighted, and hence of not so good quality. The amount a machine will do in a day varies greatly with the character of the crop to be cleaned, some years the heads being well filled with plump seeds, while in others there are much fewer in proportion to the amount of chaff. With one horse power the above machine is said to grate and clean from 7 to 14 bushels per day, the heads having been previously threshed out from the stalks. Its price, packed in shipping order, and warranted, is \$100.

A machine is also manufactured by Messrs. Wheeler, Melick & Co. of this city, on a different plan, and with no provision attached for cleaning the seed. Its price is \$32, and it is stated to be "capable of hulling from 5 to 15 bushels a day" with one horse.

Mr. Morrill's Land Bill.

This act was passed by the House of Representatives at Washington the 22d inst., and it is understood to have a fair prospect of passing in the Senate. Mr. Morrill supported it by a strong speech the 20th inst., in which he forcibly compared the aid given to Agriculture here with that it receives in other countries, and that which our own gives to commerce and manufactures. The bill in its present form, is in substance as follows:—

Sec. 1—Provides for the appropriation to the several States of 5,920,000 acres of land, to be apportioned to each in the rate of 20,000 acres for each of its present Senators and Representatives in Congress.

Sec. 2—Relates to locating the lands appropriated.

Sec. 3—Enacts that no deduction shall be made from the proceeds of these lands, for any expenses incurred previous to or during their sale—these to be met exclusively by the States to be benefitted thereby.

Sec. 4—Provides for the investment of such proceeds in safe and not less than 5 per cent. stocks, and that these investments shall constitute a perpetual fund, "the interest of which shall be inviolably appropriated, by each State which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific or classical studies, to teach such branches of learning as are related to agriculture and the mechanic



arts, in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

Sec. 5 and last—Makes these land grants conditional:

1. Upon the replacement by any State accepting them, of any portion of the capital or interest that may at any time be lost in any way, so that the whole fund may be forever inviolate and undiminished, *except* "that a sum, not exceeding ten per centum upon the amount received by any State under the provisions of this act, may be expended for the purchase of lands for sites or experimental farms, whenever authorized by the respective Legislatures of said States."
2. Upon the non-appropriation, "under any pretense whatever," of any part of the grant, for "the purchase, erection, preservation, or repair, of any building or buildings."
3. Upon the repayment to the United States of any amount received for lands sold by the States accepting them, should they fail *within five years* to provide at least one such institution as is described in the fourth section.
4. Upon a complete annual report from each institution organized under the act, and
5. Upon the reduction of the *quantity* of land granted *one half*, when its *minimum value* has been *doubled* by railroad grants.

Top Dressing Meadow Lands.

Messrs. L. TUCKER & SON—A correspondent, ("H.") in Co. Gent. of 8th April, inquires the best time to apply barn-yard manure to grass lands. I have been experimenting more or less for some years, in top-dressing meadows, with barn-yard manures, compost, &c., I always wish, when I can, to draw the manure in the fall to the place where wanted, and put in heaps of a half load or load in a place, and sow gypsum over the heaps freely. I then endeavor to spread the same over the land just before the fall rains—first scattering grass seed, (such as I wish) upon the land to be manured, and again sowing plaster freely over the manure thus spread. If I cannot get out the manure wanted in time to spread before the fall rains, I draw out in the fall or winter, and spread before the spring rains, as soon as frost is out of the ground—always sowing plaster upon the heaps, and then upon the scattered manure and grass seed as before. In drawing in the fall and scattering, we shall in a great degree prevent evaporation, and also shall get a start with the effects of the manure, and in a great measure avoid cutting up the lands in drawing. I have no doubt but that harrowing the turf would be an advantage.

I have come to the conclusion that there is no need of plowing lands to seed them, if managed with a thorough course of top-dressing as above, unless it is to cleanse the lands from weeds, &c, and not often then. J. C. M. Binghamton.

Experiments with Different Manures on Potatoes.

For the purpose of furnishing an opportunity of comparing the results obtained from experiments made in Great Britain, with such as have been obtained from similar experiments in this country, of the kind above designated, we have put into a tabular form the more important items contained in a report of certain experiments made last season, upon a farm a few miles from Glasgow, Scotland.

TABLE
SHOWING EFFECTS OF DIFFERENT MANURES ON POTATOES.

| Description of Manures and quantities per acre. | Produce per Acre. | | Cost per acre. | Value at market price. | Val. after deducting manure. |
|---|-------------------|----------|----------------|------------------------|------------------------------|
| | Sound. | Unsound. | | | |
| 1. Farm-yard dung, 30 tons,..... | 160 bu. | 160 bu. | \$37.50 | \$115.00 | \$77.50 |
| 2. Dissolved woollen rags, 5 tons,..... | 262½ | 133 | 43.75 | 168.38 | 124.63 |
| 3. Dissolved bones, 12 cwt.,..... | 160 | 60 | 24.00 | 99.20 | 75.20 |
| 4. Crushed bones, 14 cwt.,..... | 240 | 80 | 21.00 | 147.50 | 126.50 |
| 5. Woollen rags, 6 tons,..... | 182½ | 86 | 45.00 | 176.30 | 131.30 |
| 6. Glue waste, 7 tons,..... | 257½ | 90½ | 8.75 | 158.75 | 150.00 |
| 7. Sulphate of Ammonia, 2 cwt.,..... | 240 | 114 | 22.50 | 152.80 | 130.30 |
| 8. Nitrate of Soda, 2 cwt.,..... | 186½ | 120 | 30.00 | 123.75 | 93.75 |
| 9. Peruvian Guano, 8 cwt.,..... | 268½ | 120 | 34.88 | 169.80 | 134.92 |
| 10. Farm-yard manure, 15 tons,..... | | | | | |
| 11. Peruvian Guano, 2 cwt.,..... | | | | | |
| 12. Superphosphate of Lime, 2 cwt.,..... | | | | | |
| 13. Sulphate of Ammonia, 56 lbs.,..... | | | | | |
| 14. Nitrate of Soda, 56 lbs.,..... | | | | | |
| 15. Sulphate of Soda, 56 lbs.,..... | | | | | |
| Mean or average,..... | 220½ bu. | 107 bu. | 29.70 | \$139.04 | \$109.33 |

The report from which this Table has been constructed, does not make mention of any reservation of a plot for the purpose of determining the rate of produce without any manure. This very important point seems to have been neglected altogether, and the omission renders the whole series of experiments of much less value than they might have been, if the yield per acre without manure had been determined and reported. This omission in the experiments and the report, makes it impracticable to ascertain the absolute profit of any of the several applications, giving data merely for the determination of their relative profit, or for a comparison between manure and manure. As a substitute, though but an unsatisfactory one, for the omitted portion of these experiments, we have calculated the mean or average of the different columns in the Table, so as to enable any one to determine at a glance, which of the several applications cost more or less, and gave a yield of sound or unsound potatoes, or a nett profit (cost of manure deducted,) above or below the mean of the nine experiments.

In order to save the time and trouble of hundreds of

calculations by individual readers, we have reduced the British currency to that of the United States, at the rate of \$5 for each £1 sterling, which, though not strictly accurate, is a convenient and sufficiently exact approximation; and have reduced the weights of the produce to measures, or tons and hundred-weights to bushels, at the rate of 56 lbs. to each bushel. In this form, the Table will admit of comparison with other reports of experiments in potato culture with greater ease, readiness, and satisfaction. It may be well, moreover, to have it understood and remembered that the acre in this Table is the Scotch acre, which is equal to 1 acre, 1 rood, and 2 poles nearly of English and American measure, or a little over 1½ acre of our measure.

The experiments whose more important results are above tabulated, were made on ground which is described as "sharp gravelly marl," which had for a century or so been under a kind of four-years' rotation—green crops, then barley or oats, and then two years in meadow,—and in 1856 were under Italian ryegrass, which gave three good cuttings. The seed was cut into sets and dusted with gypsum. Beside these rather unimportant items of information, there is no information given in the report of these experiments as to any of the details and circumstances, except what is included in one or other of the columns of the foregoing Table. Neither is there any attempt to draw inferences or lessons of any kind from the results, nor to make them do service in the support of any disputed theory or practice. Each reader is left to draw from the compendious report whatever inferences or deductions he may think warranted by the facts.

As all the manures applied to the several experimental plots contain ammonia, actual or potential, to a greater or less extent, the experiments now under notice afford very little if any light upon the most important question as to the fertilizing of the soil for a potato crop—the question, namely, as to the comparative value of applications, nitrogenous and non-nitrogenous. The application to plot 3 contained probably the smallest amount of nitrogenous or ammoniacal matter; and next to that, or perhaps lower still in its percentage of ammonia, is the application to plot 1. The produce, as may be seen from the Table, is smaller both in quantity and value, from these two plots than from any other. The forms of ammoniacal manures which gave the largest yield, can be seen by a glance at the Table; and also those which were cheapest and yielded the highest net profit, at the head of which is Glue Waste.

The common opinion as to the tendency of putrescent (farm-yard) manure to favor or increase rot, is confirmed by these experiments. Very large doses of any ammoniacal manures seem to have a similar tendency, as in plots 2, 7, 8 and 9.

CHURNING MILK.—A Connecticut dairyman (A. H. BYINGTON of Norwalk,) thinks that more, sweeter and better butter is produced by churning all milk, than by churning the cream alone, as is usually practiced in New-England. And "the buttermilk," he says, "churned from milk just turned, is better for promoting the growth of hogs or even calves, than skimmed sweet milk." This, from careful observation, he regards as a settled fact, and if so, worthy the attention of farmers. Will our dairying subscribers who have experimented, give us their views on the subject?

Guano, Hen Manure, and some other Things.

MESSRS. EDITORS—Within a few years past farmers generally have become much more economical in saving the various waste materials about their premises, and applying them to their soils as fertilizers. A few years since, and but few farmers, comparatively, thought of looking beyond the limits of their barn-yards for manure. The vaults, the accumulations of the hen-house and dove cote, the soap-suds and sink-water, as well as the deposits of the muck swamps, were almost wholly neglected.

Since the introduction of guano into this country thousands of farmers make account of saving and using the manure of their poultry houses, and they find it, like guano, a valuable concentrated manure, though much less valuable, "weight for weight." In preparing the hen manure for use, we find the experimenters frequently mix the manure with ashes or lime, but this is a very wrong and wasteful practice, for it expels much of the ammonia, altogether the most essential portion of the manure. Guano is considered, both by the chemist and the intelligent farmer, valuable in exact proportion to the amount of ammonia it contains, or will yield upon its decomposition. A prime Peruvian guano will yield from 16 to 18 per cent. of ammonia, and as it is this substance principally for which the farmer buys guano, the ammonia costs him some sixteen cents a pound, and this is cheaper than he can buy it in any other form. Now if a farmer mixes ashes or lime with his guano, he is scattering his money to the "four winds of heaven," or rather his ammonia, which amounts to the same thing.

In the Co. Gent. of April 15, a correspondent (A Small Farmer) gives his way of preparing hen manure for corn. He says—"I have been in the habit for several years of getting together all the clear manure from the hen roost that I could, and a few days before planting (say three to six) mix an equal quantity of wood ashes and about half as much plaster thoroughly together, wetting it enough to moisten the whole." Now with all due respect to the feelings of this "Small Farmer," we beg to say that he could not take a more effectual method of expelling the ammonia from his hen manure, unless he was to burn it in the fire. But still the compost might possess considerable manurial value.

Also in the next issue of the Co. Gent., J. E. S. of Maple Grove, at the request of H. Clayton, gives his "modus operandi" of composting hen manure. He says:

"As often as four or five times a year I gather the droppings of my fowls, thoroughly mixing with every three bushels of manure, two bushels of ashes, one bushel of plaster, and from two to four quarts of salt. This compost is thrown into a large box or bin, where it can remain secure from the weather until wanted for use. In place of ashes, I have formerly used air-slaked lime, and with the best results."

Now we will suggest to J. E. S., that he take a table-spoonful of unleached wood ashes, and one of hen manure; moisten the mass if dry, and with the spoon rub the ashes and manure together for a short time; then apply the mixture to his nose, give a hearty sniff, and he will find the ammonia of the manure escaping at the rate of 240. Then let him take the same amount of air-slaked lime and manure, and rub together, and

he will find the ammonia flying off with still greater speed.

Messrs. Editors, it affords us no pleasure to point out the mistakes of our brother farmers, and we do not do it in a spirit of "captious criticism," but solely for the good purpose of imparting correct agricultural knowledge. From lack of knowledge pertaining to our business in times past, we have committed many mistakes in our attempts at experimenting, to some of which we will refer before closing this article.

Immediately following J. E. S.'s communication, you give us a "new way of preparing bones," by Mr. Stewart of Scotland. To his manner of preparing bones we have nothing to object, but we think he very much errs in his treatment of woolen rags for manure.

Woolen rags contain about 17 per cent. of nitrogen, and 7 per cent. of hydrogen. If the rags were to be perfectly decomposed in a muck compost heap, they would yield more than 20 per cent. of ammonia, a larger amount than good Peruvian guano yields, and as far, then, as the nitrogen is concerned, rags are worth more, "pound for pound," than guano. Fresh lean beef contains 77 per cent. of water, and 23 per cent. of dry animal matter, or, in other words, 100 lbs. of lean beef will only give 23 lbs. of dry or jerked beef. The dry beef contains 15 per cent. of nitrogen, consequently one pound of woolen rags contains about as much nitrogen as five pounds of clear beef steak.

If lean beef is boiled in a strong lye, it will be decomposed, (eaten up) By this process, the nitrogen would be principally driven off, in unison with a portion of the hydrogen, as free ammonia; and nearly the same results would follow in boiling woolen rags to a pulp in strong lye.

About one-half the weight of the fresh bones of an animal, is composed of cartilage, gelatine, and oil—the balance of phosphoric acid, lime, magnesia, &c. The gelatine contains nitrogen, hydrogen, &c. Some years ago, we filled a forty-gallon boiler with broken horn piths and strong caustic lye, for the purpose of dissolving the bone. Soon after the boiling commenced, there was a great evolution of ammonia. Several doors in the house were carelessly left open, and the pungent odor of ammonia filled the house from "cellar to garret," and in some of the rooms almost to suffocation. The result of this experiment was, we disintegrated the bones, converting them into a fine white powder, but it was at the expense of the nitrogen of the organic portion of the bones. On that score they might about as well have been burned. So we think, in boiling woolen rags in strong lye. Wool, of course, is nearly identical with woolen rags. Some years ago, for several years, we obtained a quantity of the waste wool from a carding machine. This is usually much saturated with a gummy oil, which very much retards its decomposition if plowed into the soil in that state. To cleanse this wool, we have sometimes boiled it for a short time in a tolerably strong lye; a few minutes' boiling will be sufficient to remove the oil. The wool should then be composted, as it is slow in decomposing. The oil and lye forms a kind of soap, a valuable material for mixing with peat or swamp muck. One hundred pounds of wool contain over 17 pounds of nitrogen, as much as there is in 3,400 pounds of fresh cow manure.

Great quantities of woolen waste and rags are used in England, as manure for the hop plant, the price

ranging from \$25 to \$50 per ton. Such waste matters are worth saving in this country as well as in England.

Some fifteen years ago we obtained a cask of ground gypsum, (500 lbs.) This was placed in an out-house where it remained for about one year; during the time there was turned upon the gypsum large quantities of chamber lye. After a few months time, by testing the gypsum with slaked lime, there would be a great escape of ammonia. In the autumn we made a compost heap of five loads of good manure and ten loads of swamp muck. The next spring, procured a cask of lime, slaked it near the compost heap; also took two bushels of the ammonia saturated gypsum near the compost heap; then set two hired men to shoveling over the compost, while we threw on with a shovel the hot lime and the gypsum; whenever a shovel full of the gypsum went to the heap, my hired hands would leave and flee to the windward side, to prevent suffocation from the fumes of the escaping ammonia. However, we succeeded in mixing the whole together, and probably we lost the bigger portion of the ammonia that we had been treasuring up for a twelve months. Some may ask why we did so—the fact was, at that time “we didn’t know no better!” It was only one of those mistakes that farmers are liable to make whenever they undertake to meddle with *chemicals* about which they possess no correct knowledge.

Another time we had a bushel or two of the fine bone dust from the button mold factory; thinking to add to the value of the bone dust, we placed it upon the barn floor, poured upon it boiling water till it was thoroughly soaked, then put upon the bone an equal amount of fresh ashes—took a shovel to mix up the mass. In less than half a minute we went out of the barn in double quick time—such a smell of ammonia we had never before met with. However, we have since learned better how to manage these matters.

We have given the result of boiling horn-piths—our next attempt was to burn a cartload; this most effectually destroyed all of the organic matter, leaving the bone in a condition to easily pulverize. But the experiment was attended with a loss of about one-half the manurial value of the bones. Since then, have broken up all the bones we could collect with heavy hammers, and plowed them in; but the breaking them up is a slow process, to say nothing about the danger of getting an eye put out. To-day (April 24) our team is drawing horn-piths from a tannery. We shall put a pith in each potato hill at planting time, and also a spoonful of dry hen manure—(we don’t mix ashes or lime with the droppings of our poultry)—and will report to you, Messrs. Editors, the result of the Prince Albert potatoes you so kindly forwarded a few days since. We have got them cut and lined, as recommended by Mr. Howatt, and shall give his one-eye system a fair trial. LEVI BARTLETT.

Potatoes—The One-eye System.

MESSRS. EDITORS—I find I omitted stating in my article on “Potato Culture,” (p. 202,) one particular which I did not think of until to-day in planting my early ones, when it immediately struck me; and as I am aware that a great many of your readers intend trying the one-eye system, I wish them to have all particulars, so that they may have success. In dropping the set in your drill, turn the eye of the set on

bottom of drill—that is, the skin next the earth. By doing so, your bud or stalk takes root immediately at the base (by set.) If planted cut side down, they will not root at the set, but one joint above. In dropping, it is as easy to do it right as wrong. This also gives you a longer stem.

In all cases where manure is applied in the drills or hills, (drills are preferable,) let it be applied *under* the set; in no case over it. If applied over the sets, the rains wash the liquid of the manure to the young shoot or shoots and injures them.

I have had orders for potato-eyes, to be cut out size of peas, and forwarded by mail. Such is not the way to raise them. Those that fail in producing potatoes from those pea eyes, must not say the one-eye system won’t do.

To any one who is desirous of making the most of a good potato, I will tell them how to do it: Take a potato of any size, put it in a flower-pot, and cover it two inches over with good rich earth, half loam and half well rotted stable manure. Bury this pot in a hot-bed to its brim; when the sprouts appear half an inch or inch above ground, run your knife down close by the stem until you reach the bulb, then slant your knife a little and it is cut, as you will feel by keeping hold of the stem and keeping it pulled. When up, have a three or five inch pot filled with the same soil, and insert those cuttings all round the pot, pressing them well in; put them in the same depth as they were before cutting; give a light watering, and plunge your pots in your hot-bed. One potato thus treated, will give you a large amount of plants, as the potato will continue throwing shoots until it decays. When your cuttings are rooted, transplant into drills same as planting, and from your first cuttings you can get another crop without injury to them by cutting them off half or an inch above ground; they will soon throw out fresh shoots. The above plan I have successfully proved to be good in increasing a good variety of potato, and a profitable one, as it requires but little work, and soon gets you into a good stock of tubers, and such as we practice when we meet a valuable potato. GERALD HOWATT. *Newton, New-Jersey.*

Raising Turkeys.

MESSRS. EDITORS—In one of your late numbers an inquiry was made as to food for young turkeys. Last season was not favorable, on account of the continued rain for weeks, but I raised sixty from three old hen turkeys; by putting the first litter under a hen, she hatched out eleven, and the old turkey commenced laying soon after her first litter.

I attribute my success, in a measure, to the feeding the young ones on hard boiled eggs, until they are old enough to turn out days and pick for themselves—driving them up nights into some dry barn. When they begin to get a little hardy, and the nights grow warm, let them find food and shelter for themselves.

It is but very little trouble to mince the eggs: Take two or more in a cup or bowl, and the point of a knife. For a change, give them bread soaked in milk, or a little boiled rice. Place the food outside the coop, on a clean board, out of the old one’s reach, (corn is good enough for her,) and my word for it, it will not only be profitable to feed eggs, but a pleasure to see the little birds eat, and hear them sing at the same time. Feeding is one great point; there are, however, many things to be observed, as they are a very knowing fowl. MARIA BROWN. *New Hartford, Oneida Co, N. Y.*

Draining Deepens the Soil.

The effects of thorough draining in deepening the soil, are readily seen in a comparison of the characteristics of those wet and retentive, with those either naturally or artificially of a porous nature.

All heavy soils must be shallow from the influence of stagnant water—of water which saturates the surface, not being able to pass away by filtration. Every fall of water gives a mortar-like consistency to such a soil, and as the moisture passes off by the slow process of evaporation, it becomes baked and brick-like, instead of light and friable. If plowed when wet, it is entirely unfit for the growth of crops; if stirred when dry, it turns up in clods and lumps; in either case, it is only after much labor that any finely pulverized earth is obtained to support and nourish vegetable growth, and an inferior crop is ever the result. *Saturation without filtration, kills the productive power of any soil*—makes it hard, shallow and sterile, however rich in every element of fertility it may be, when differently situated in the single circumstance of drainage.

Porous or well-drained soils, on the contrary, never retain, even if they become saturated with water. The surplus moisture filtrates at once into the drains, leaving the surface loose and friable. Such a soil can be plowed at any seasonable time, and turns up mellow earth, readily fitted as a seed-bed for any crop. Such a soil invites the roots of plants down, offering them food instead of a stone-like earth, and every year deepens the area of vegetable growth, until the full depth is reached to which it has been drained.

That draining deepens the soil, we will bring a single instance to show—one which confirms every point stated above. It is condensed from a letter from that pioneer drainer and pioneer of good farmers, JOHN JOHNSTON, near Geneva, N. Y., and was published in the Country Gentleman of Jan. 19, 1854. He says:

"Last spring I concluded to plow a clayey field, containing forty acres, only once for wheat, and that after harvest. Previous to draining it was one of my wettest fields, and in dry weather, even in April and May, was very hard to plow, often having to get the coulters and shares sharpened every day, when we used wrought-iron shares. Owing to the great drought before, during, and after harvest, I got a large plow made, so that I could put two or more yokes of cattle and a pair of horses to it if necessary. Immediately after harvest we started for the field, oxen and drivers, plowmen and horses; and besides, new shares on the plows, took other new shares along, expecting to be obliged to change every day.

When we got to the field, I had one man put a pair of horses before the large plow, and try to open the land with a shallow furrow. He went seventy rods away and back without even a stop, except when the clover choked the plow. I then put the plow down to eight inches, and after one round, to nearly ten, and he went around without any trouble. His furrow was over nine inches deep, and laid as perfect as could be. I then had one yoke of oxen put behind my smallest horses, and a pair of horses before each of my other plows, and they plowed the field with perfect ease, only changing shares twice.

"Although the field was undoubtedly plowed at the rate of nine inches deep, yet the clover roots went deeper, and the land plowed up as mellow as any loam; whereas, had it not been drained, it would have broke up in lumps as large as the heads of horses or oxen. A few years ago, a neighbor broke up a field about the same season, and similar land, but not drained, and

after cultivating, rolling and harrowing, he had to employ men and mallets to break the lumps, before he could get mould to cover the seed; and after all did not get the third of a crop of either wheat or straw. My wheat looks as well as any I ever saw, and I doubt not it will be a good crop."

Those farmers, and they are not few, who have had experience in the cultivation of clayey soils when dry, or in any state, will not wonder that Mr. JOHNSTON exclaimed, on finding this great change in the depth and friability of this clay bed,—"I never was more agreeably surprised in my life—in fact, had my men been plowing in gold dust, as they do in California, I should have been no more pleased." This great change was the simple effect of thorough drainage—the soil, no longer compelled to remain saturated with water, lost its brick and mortar character, and became a *live*, or at least an active and productive soil, ready to reward the labor of the farmer.

The Problems of the Farm.

Winter, the night of the year, when Nature is most quiet and unattractive, is appropriately called the work-day or harvest-time of the philosophic student: but to the intelligent practical farmer, his text books open their rarest and profoundest lessons with the advent of spring. In winter he may pursue the study of abstract questions and sciences, but in spring he engages in the practical application of the knowledge already made his own, and of all which he can obtain having a bearing upon the subjects in which he is interested. Thought is united with action, and a new importance attaches to the investigations which are most appropriately and successfully commenced at this time.

The necessary conditions to fertility of the soil, and the adaptation of different soils by appropriate methods of management to the production of different crops, are problems among the most important which can occupy the attention of the farmer; and, in some form and degree, every cultivator of the soil gives his thoughts to their solution. He considers the question of preparation in its relation to productiveness, mechanically—in regard to plowing, subsoiling, harrowing, and cultivating—and chemically, as it concerns the necessary manures and the atmospheric influences affecting the soil. These conditions are studied and compared with those of the crop desirable to produce from the soil—the connection between these and the natural world—also the adaptation to the requirements of the farm and market, all enter into the statement from which the problem is to be worked out.

These questions we say, in some form and degree, receive the attention of the farmer. But it is too seldom given in that systematic form necessary to thoroughness—to the extent or with that depth of attention which these subjects demand. Complex in character, they extend through every department of scientific research, furnishing an ample field for the exercise of every mental, as well as physical faculty. No pursuit or employment so calls into exercise all the powers of humanity as that of Agriculture. We mean by this, that none will so well secure and preserve the equal development of the whole man as will this when entered into and carried out in its true spirit and signification.

Studies for the farmer! There is no lack of subjects

—important, profitable, and interesting subjects—to occupy every faculty of the mind. The perceptive, the reasoning, the imaginative, and the executive powers, may have free scope in observing and analysing the varied relations and bearings of the wide range of facts ever challenging the attention, and in devising and carrying out plans for present and future operations. Nor need the mind be confined to the narrow range of one's own farm or neighborhood. While there are so many problems in Agriculture still unsolved, in which all nations are interested, is there not ample room for the exercise of the noblest ambition, as well as the deepest wisdom and the purest philanthropy? Assuredly there is.

One word in conclusion. Let us resolve to enter upon the labors of our farms this spring, with a better understanding of our objects, and a determination to be more thorough in our methods than ever before. Should each one thus, with a deeper sense of the nobleness of his calling, engage in the great work of improvement, what an aggregate of power would be exerted? How memorable the epoch which should inaugurate such a spirit among us.

Spring Management of Manures.

EDS. COUNTRY GENTLEMEN—So limited is the time in this latitude, in which the farmer is to go through all the labors of spring, that he is often at his wits end to contrive how to do the whole in season, or often what to do first.

For one, no branch of spring labor has been to me a more difficult problem, than the proper management of the accumulated masses of manures as they now are presented; in the straw-yard, a coating from one to two feet deep, of a mixture of cattle droppings and urine, rejected portions of coarse hay, with a large predominating amount of trodden straw, all frozen together till near the first of May, and quite unfermented; near the cow stable lies a large pile with less straw, so compact indeed that but little air enters it, hence it is very little fermented, yet the frost is nearly out of it as warm weather appears. The refuse of the horse stable lies steaming away, ready to be drawn, if it has not already been spread during the latter part of winter, as it should have been.

In accordance with views expressed by several of your correspondents upon this subject, I believe all manures should be partially decomposed by fermentation, before being applied as a top-dressing or turned under. The reasons are to my mind simple and conclusive. The refuse vegetable and animal substances devoted as fertilizers, must evidently assume new forms, both mechanical and chemical, before they can be presented as nutriment to the growing plant. The woody fibre of the straw must pass to the form of *humic acid*, or some of its allied types, and be reduced to a soluble state by being combined with the mineral portion of the straw, or better with ammonia formed from such animal matter as the manure may chance to contain.

Now these changes are thoroughly effected only when the mass is brought in *close contact*, and aided by a degree of *heat*—neither of which are found in the soil. Neither of these conditions—contact and heat—are well secured except in properly constructed compost heaps. Hence to conform our practice to correct theory,

it appears to me that all manures not piled when thrown from the stable, should be piled and fermented before being applied to the soil.

But how is this to be done without too much expense?

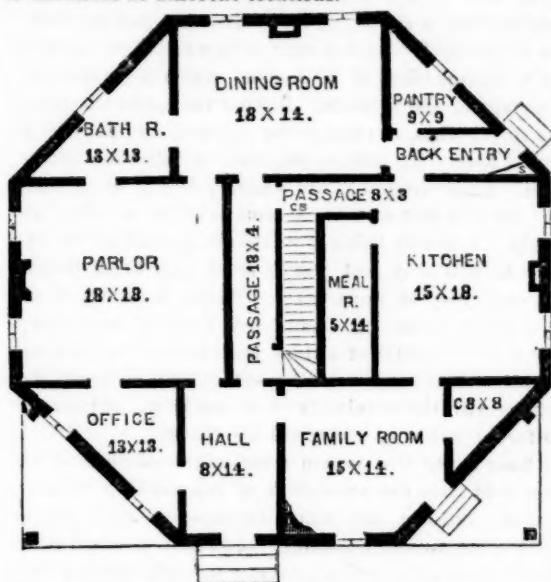
To answer this inquiry, I will give you the plan followed by me for the last two years, with the results of which I have been tolerably well satisfied. The horse manure, which should be hauled early to prevent overheating and fire-fang, I spread upon ground plowed the fall before for oats and potatoes, evenly spreading it from the wagon, by which the crop is more uniformly fed than can possibly be done when the manure is first left in piles, and in the end costs less labor for spreading. The yard manure, and that from the cow stables, is reserved for corn, and as soon as the yard manure is thawed up, it is piled into heaps about five feet wide, four or five feet high, and as long as you please. Care should be taken to lay the sides of the pile perpendicular, and the top flat or a little dishing, so that the rains that fall upon it will soak in and aid in fermentation. The object is to induce a rapid and thorough fermentation, and to effect this it must be so piled as to admit air through the whole pile and keep it moist, and if the pile is not more than five feet broad at the bottom, it will admit air to the center, and if piled during the last week in April, it will be well fermented and rotten by the 20th of May, when piled as above directed. Last year my manure was piled April 23d and 24th, and hauled to the cornfield May 25th, when it was tender and well fermented. The corn land plowed in the meantime, the manure harrowed in thoroughly, and the corn planted and tilled by flat culture.

Two years ago I planted on sod manured in the furrow, except a strip which was left through the lot to drive on while drawing manure. This strip was manured before being turned over, and the result was greatly in favor of that spread on the furrow and dragged in. This was specially apparent in the young corn, which came up stronger and kept ahead of the four rows where the manure was turned under, till harvest time; and generally, as far as I have tried it, surface manuring has done the best. The extra labor of piling yard manure, is compensated in several ways. First, the quality of the manure is greatly improved, the bulk is diminished by being concentrated, and the excess of water evaporated by the heat of fermentation, so that the labor of drawing is greatly lessened; besides it is loaded from such piles nearly twice as fast as from the yard mass. But among the most important benefits of thus fermenting manure, is the destruction of all such foul seeds as are usually carried to the field from the barn-yard, for such as are near the center of the pile have their vitality destroyed by the heat, and those at or near the surface are sprouted, so that ruin overtakes them all. GURDON EVANS.

APPLE-SEED WASHER.—Seeing an apple-seed washer described in your paper, I wish to know the full particulars about it, how it is made, and how much it will clean per hour, and what it will cost to erect one. EVANS PENNINGTON. Jennerville, Penn. [We are unable to give any further information than already published in relation to the washers. Will those who have used them please answer the above.]

Design for an Octagon House.

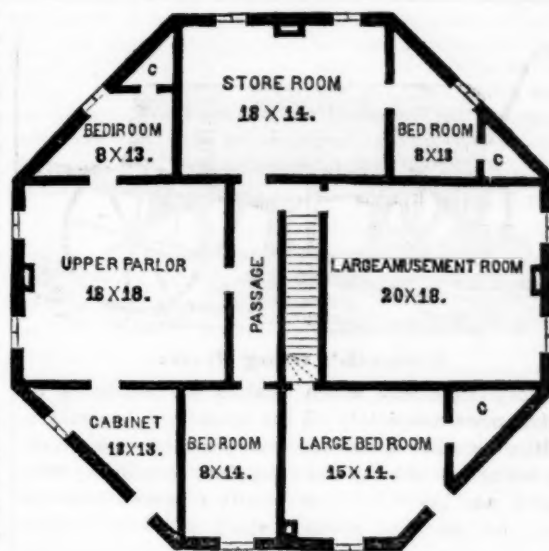
MESSRS. EDITORS—You will here find a design for an octagon dwelling, which it is believed is both convenient and pleasant. A building of this description can be built of substantial *grout* or *concrete*—that shall be perfectly durable—for a cost of from fifteen hundred to two thousand dollars, according to the amount of finish that may be put upon it, at the cost of material at different locations.



FIRST FLOOR—20 FEET SIDES, OUTSIDE WALL.

By a moment's inspection of this plan, it will be seen that all the rooms are entered from the hall and passage, without passing through any other room, while the stairs also are ascended without opening into any of the rooms. And it will also be seen that the rooms are large and light to correspond to their uses, while the *work rooms and entrances* open to the warm and sunny directions, which, for comfort, should always be the case, where the location will admit of it. There is a long, well lighted dining-room, an ample kitchen and work-room, properly detached from the other rooms to prevent the passage of unpleasant odors, and yet very near to save unnecessary steps; a pleasant family room on one side of the front hall, with the library or office opposite; a good meal-room, most secure from rats by being central; and convenient access to the cellar under the main stairs, marked *c s*. Then the triangular corners come into excellent use, according as the different occupants may chose, for bath, closet, pantry, or even for bedrooms, being amply large for a single bed. And in building for myself, I should always have at least two *open fire-places* in the house—one in the family-room and one in the sitting room—on account of healthfulness and pleasant appearance. In this plan, the office and hall can be warmed by a small stove in the former, with the pipe passing through the latter into the chimney of the family room. It will be seen there is a convenient wash sink in the back entry, marked *s*, while the kitchen is large enough to admit of stationary oven and range if desired, between the two windows. In fact, the main plan will admit of many changes in the minor details, to suit the variety of tastes or purposes for which it may be occupied.

And now we will ascend the stairs and look at the upper story; here we find a beautiful parlor, and back



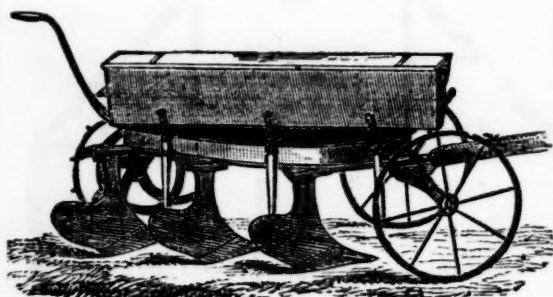
SECOND STORY.

of it is a large and pleasant amusement-room, where a very large company of family friends or others, may enjoy themselves on festive occasions, as shall suit the inclinations—and it would be better for both the health and happiness of our farming communities, if they would calculate upon and indulge more cordially in rational and innocent amusements, than they (many of them,) do. Here is also a large dry store-room, a cabinet or study-room for the youth, and four good bedrooms, with closets; still this upper story will admit of diversity of sub-divisions, to meet any required purpose; but in the present instance, I have left the upper partitions to correspond with the walls below, which, in my judgment, renders the whole a very convenient and symmetrical residence, with no waste room, and no more room in any particular apartment than is needed, at the expense of curtailing any other apartment. None of the main rooms have less than two windows, nor more than one side exposed to the weather, while the whole can be admirably well *ventilated*—always needed.

The upper hall and passage can be well lighted by sky lights, while the lower passage can be pleasantly lighted by glazed doors opening into the hall or dining room. If you are willing to incur the expense of engraving it, I will send you an elevation, as I have designed it, of this house, for my own adoption.

I am not a builder or draftsman, but a farmer, yet I have often amused myself many hours, by studying and designing rural architecture—believing there is great need of reform in the farm-buildings of our country; and there is no doubt but the expense which farmers already lay out in buildings, if directed by taste and care, would supply them with far handsomer and more commodious buildings than they now possess. At another time, if desired, I will send you a plan which I have matured, for an octagon barn, which it is believed possesses advantages that recommend it, or something like it, to more frequent adoption. D. S. CURTIS. *Madison, Wis.*

P. S. For those who wish it, or need it, I have drawn this same plan on a smaller scale—15 feet to the sides—and it is then very convenient and pleasant, although the rooms will be correspondingly smaller, but still large enough to be more commodious than many of the much larger ones, built after the fashion of the generally *uncouth* farm-houses which are seen in all parts of the country. D. S. C.



Hildreth's Gang Plow.

Every implement which enables the cultivator to control more completely all his operations, becomes a positive benefit. There are some kinds of work which are better executed by the gang plow, than in any other way, and hence it is occasionally of great value to every farmer. Sod ground, which has been deeply plowed late in autumn, may be reduced to a very mellow surface by the use of the gang plow, leaving the sod undisturbed below. A thin coating of yard manure, or a thick dressing of compost, may in the same way be turned under and rendered available for corn planted on the sod. Corn stubble, plowed in fall, may be seeded very early in spring by covering the seed with this implement. There is still another use, of value to small farmers. A seed drill, costing nearly a hundred dollars, is too expensive a machine for a five acre wheatfield—the gang, costing only twenty-five dollars, forms a useful and convenient substitute. Hildreth's gang plow, (made by Hildreth & Charles at Lockport,) which in our own use we have found exceedingly convenient, is furnished with a seed-box, as represented in the accompanying cut, which sows any desirable quantity of seed from a peck to three bushels per acre, and the plows cover it at one operation; and in this respect it possesses an important advantage over the wheat drill, which requires complete previous preparation. Hildreth's machine is made entirely of iron, except the tongue; the depth of cutting and the width of slice may be regulated with complete accuracy; and two horses plow three furrows at a time with ease, the friction from the weight of the machine and of the earth, being obviated by the wheels which sustain the plows and on which they run. It is liable to clog in wet stubble, and always performs more perfectly in clean ground.

A Good Cattle Barn.

EDITORS CO. GENTLEMAN—In your paper of March 11, I notice an inquiry of J. COPE in regard to stabling cattle, and as I have followed for some years the plan there hinted at, I furnish you with a description of my main cattle barn, for the benefit of your readers.

The building is 100 ft long by 45 ft wide, and 24 ft. posts, and will stable 66 head of cattle, and will hold 114 tons of hay, and all the manure of six months feeding. A feeding floor of 12 ft. in width occupies the center of the building. The height of the stable is 10 ft. Over the feeding floor are two chimneys, through which the hay is passed down to the feeding floor. The chimneys are four posts with rounds in them at intervals like a ladder, and they serve the additional purpose of ventilators. The hay is unloaded into dormer windows in the roof 6 ft. wide by 7 ft high—by horse power, a large fork, tackle and rope, with which a load

of a ton weight is discharged easily in seven minutes.

On each side of the feeding floor are the stanchions for confining the cattle, 35½ inches from center to center, 5 feet high, 7 to 9 inches space, according to the size of the occupant, from center to center, for the neck of the animal. The mortice in the top is — inches in length. The stanchion is fastened by a cap shutting down, looking much like a small boot-jack, hung on the end with a common butt. The standing and sleeping floor is six inches lower than the feeding floor, and is five feet four inches wide, with a fall of six inches, and a continuation of 30 inches, which receives the droppings of the animals. Behind the cattle is a cart-way 8 feet wide, to receive the manure, and having a ground floor. No litter is required to keep the cattle clean. Their droppings are entirely below them, and they seem to rest and be as comfortable as when at liberty. I hardly think it would do to confine heavy cattle in this way, but young stock and cows thrive well and enjoy it apparently. There is no waste of hay—all is eaten up clean; but here, as elsewhere, they want but little at a time, but often. The fodder is always clean, and it is all in-doors, and no storm interferes with the regularity of proceedings, or induces the feeder to hurry and slight his charge.

I have saved this season some eighteen bushels of grass seed from the sweepings of my feeding floor—timothy, red-top, and white clover—and as I never heard of an animal becoming fat on such grain, I consider it clear gain, and something towards paying interest on cost of the building.

At first one has some trouble in stabling the stock, but four days generally overcomes the difficulty, and the cattle go out and come in with regularity, if you control your temper and have patience; otherwise you have wild stock, unruly, and poor. Last winter it took three hands a portion of the time to stable the cattle. This winter one man does it in less than half the time. WM. M. WHITE. *Allegany Co., N. Y.*

Letter from John Johnston.

NEAR GENEVA, 6th May, 1858.

MESSRS. TUCKERS—I parted with the last of my fat sheep six days ago. I cannot boast of profit, yet they have just about paid for their feed and the interest of money, leaving the manure for taking care of them. The manure is worth a good deal to me. Indeed I could not get paid for cultivating my farm without making large quantities of manure.

The high price of mutton in the cities last summer and autumn, took away all the good sheep; hence I could get no first class sheep to purchase for feeding, which was against me this winter.

My fat cattle are paying, but I bought them in February, and are retailing them to butchers around here. I sold a steer yesterday of my own raising, at \$52 50; he was 22 months and six days old. *Such animals pay.* Owing to the panic last fall, I fed less stock last fall by one-half, than I have done in 28 years. I was afraid it was going to be such a time as we had in 1841-42, when I lost money by feeding.

I feel in the spirit for a large stock for next winter, and hope I can find such as will pay their way and leave me the manure.

I am rather sorry to see Dr. LEE take such a view of stock feeding. In one of his recent articles he says,

if all the farmers were to go into fattening cattle and sheep like me, there would be no market found for them. There is one thing the Doctor may be sure of; we can fat no more cattle and sheep than are in the country. If we fat them all in one year, and there is no market for them, the young ones will pay well to keep one or two years longer. For instance, my 22 months steer would in all probability have paid for keeping two years longer, and if I had not got a remunerating price, I would have kept him. I have more like him, which I will sell if I can, getting paying prices; if not, I will hold them over for another year. *It is but little cost to keep a fat animal, compared to making a lean one fat.*

Let Dr. LEE look at Great Britain. He must know that for many years past, (at least sixty,) they have been fattening all the cattle and sheep they possibly could; raising immense quantities of turnips for that purpose, and importing all the oil cake and other cake for feeding purposes, they could procure, and after all they had to open their ports to fat stock from the Continent of Europe, and still their beef and mutton is very high. I notice in my last paper from there, that sheep, (mutton,) in Liverpool is from 8d. to 8½d, (16 to 17 cents) per lb., sinking offal. True, when disaster in trade and manufactures takes place, prices rule low, but whenever these revive, butcher's meat rules higher than ever before. Stock of all kinds, both here and in Great Britain, have of late been higher than I ever knew it, and that is more than half a century. Dr. L. takes a too contracted view of the stock trade. I have no doubt that on the revival of trade and manufactures, beef and mutton will be as high, if not higher, than ever, and I intend to keep up to a full stock in faith of that.

My manured wheat looks very promising.

The weather is everything we farmers could wish, and our prospects good.

I weighed 8 two-year old steers to-day for Mr. SWAN. They gained from 120 to 200 lbs. each since the 12th of last Nov. They were fed hay and one quart of oil-cake meal each daily, since the 17th of Dec. They are good beef now, but if turned to good pasture, either to sell the end of June, or to keep over for next spring market, they will be as fat as pork by 1st July, and gain greatly in weight. One of them gained 75 lbs. in the last 54 days. I weighed then, and weighed now. It was the largest gain I ever saw in the time, at least in a steer of his size, being now 1,100 lbs. He was thought not doing so well as the others, and was fed better the last three months. JOHN JOHNSTON.

Training Heifers and Unruly Cows.

Judging from the number of wild and unmanageable cows about the country, the efforts of those who annually initiate the young recruits into the service, do not always result successfully; the end desired—a hardy, gentle cow—is not always attained. Why is this so? We think because the method of training is a faulty one, and a friend who has had considerable experience in the matter, allows us to communicate his ideas on the question.

In ninety-nine cases out of one hundred, cows are wild and ungentle from defective breaking at first. The usual method of cornering by the fence, or holding by the horns, is just calculated to produce such cows—cows which must be followed to the fence, find them where you may, or be held or tied, before they will stand for milking.

Higher views of the intellect of cattle should prevail.

The secret of training heifers to be gentle, lies in educating them aright—in appeals to their intelligence—in giving them habits of gentleness and confidence in man while young. Heifers can be learned to stand still through the process of milking very easily, if fed from the hand, and petted and tamed, before the hour of service arrives. But if this has been neglected, and the animal, full of spirit, fear and strength, was given over to break for milking, we should advise as follows:

Let the animal be turned into a yard some 20 or 30 feet across—a strongly fenced yard, from which she will not attempt to escape, remember—and then proceed to tame her—gently and patiently tame her, by feeding from the hand, by rubbing, coaxing and patting her, as carefully as a huntsman would a “blooded pup.” We should never coax a heifer to stand to be milked by giving her a pail of slop or other bribe, but seek to teach her the habit of standing wherever we come up to her, and there submitting to the milking process. To this end we should avoid cornering her, or any appearance of it, but continue by gentle words and acts, to subdue her fearfulness—to show her our power over her—and to fix the habit of obedience. In this way the wildest heifer can be tamed in a few days. If quite unmanageable at first, she should be kept in the yard spoken of until she manifests more pleasure than fear at your approach. To bring about this, allow her to eat and drink only from your hands, visit her often, and each time with some palatable morsel, all of which would aid in cementing the confidence and friendship which should subsist between the cow and her milker.

For old cows which have bad habits, the yard alluded to is valuable, and every dairyman will do well to provide one, opening from his barn-yard or other milking place. We believe that the “most tormenting old vixen that ever kicked and run,” can be broken of their tricks in such a yard, by patient perseverance—at least we have never failed in several trials of our skill. If they continue to kick, put a chain around the body just back of the fore legs; if this does no good, loosen it so as to twist in a lever, and give it turns enough to teach them they must submit. Let this mode of training heifers and unruly cows be tried with the same patience a boy manifests in training his fifty-cent cur, and we believe all who do so will be able to report decided success.

To Prevent Foxes Killing Lambs.

MESSRS. EDITORS—In looking over the back vols. of the Cultivator, I find in vol. 4, 3d series, p. 219, the correspondence which passed between us and our friend, D. EASTMAN, on the above subject. This reminds me of my experience the two past seasons, and for the benefit of your readers I quote a part of his letter, and give a farther relation of facts.

“I take a red woolen flannel string, say three-quarters of an inch wide, saturate it with sulphur and grease, give it a slack twist, and tie it around the lamb's neck. Thus I serve the whole, and turn them out until shearing, when I take the strings all off. By this simple mode I have saved hundreds of dollars, and have never lost a lamb when I have practiced it.”

In communicating the above to you about shearing time, (1856,) I stated that I had tried friend Eastman's remedy, and that I believed it had thus far proved perfectly effectual.

I would now say that at “shearing I took the strings all off,” put some sulphur and grease on each lamb, and yet, notwithstanding this precaution, (which is similar to the “never failing” remedy of “A Wool Grower,” as published on p. 222 of same vol.,) the foxes afterwards took, as I think, sixteen of the above lambs, and those, too, which were strong and healthy.

Last season I tied strings on nearly every lamb, and let them remain until about the 1st Sept., and think that I did not lose one by the foxes, although they were about the lots as usual. At shearing time I feared that the strings would become too tight, and we lengthened out a few of them, but I now think there is no need of it, if they are tied quite loose at first. D. G. WILLIAMS. East Dorset, Vt.

The New Pears.—(CONTINUED.)

DOYENNE ROBIN.—Size above medium, round, nearly regular, or obscurely and obtusely ribbed; skin pale yellow, usually russeted about the crown; stalk an inch and a half long, generally set in a rather deep smooth cavity, sometimes merely planted on the surface; calyx in a smooth or scarcely furrowed basin; flesh buttery, slightly melting, with a fine "very good" flavor—not equal to that of the Virgalieu nor so sweet. Tree a free grower and very productive. Season mid-autumn.

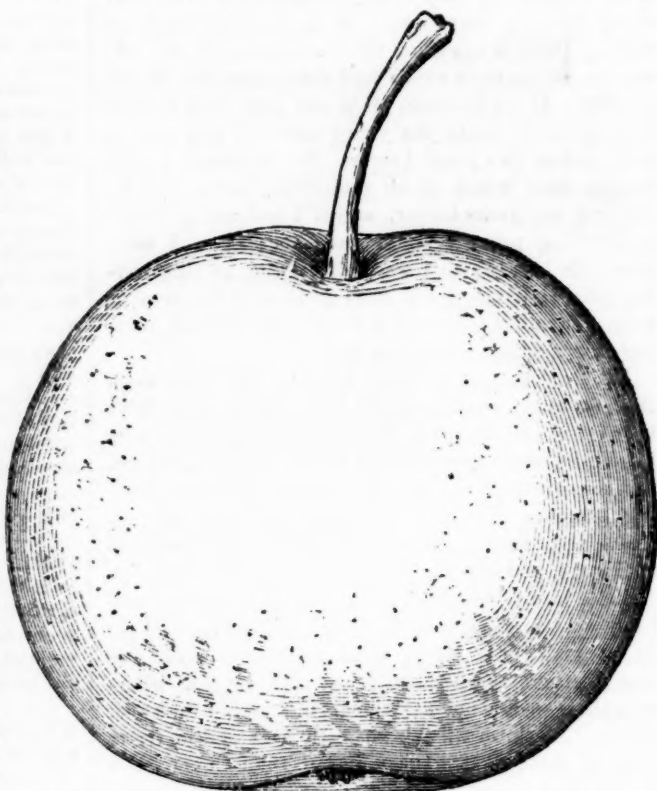
Improvement of Orchards.

An orchard set out over forty years ago, and cultivated to various crops like the remainder of the farm, has for some years back been seeded to grass, and produces light crops of the same. The owner can keep it in grass most conveniently, using it as pasturage for pigs, calves or sheep, or for meadow, but wishes to apply something to increase the product both of hay and of apples, without plowing up the orchard. We have advised him as follows, and submit our plan to the consideration of your horticultural correspondents. The orchard is a great part grafted—the soil is sandy loam.

Let, we say, the whole orchard be grafted, and all the trees pruned, where the operation is needed. Apply a top-dressing of muck and ashes, in compost, about ten loads to the acre. Harrow thoroughly in the spring with a heavy sharp toothed harrow, taking care not to injure the trees by contact with whiffletree or harrow. Pasture with sheep the fore part of the season, putting in a sufficient number to graze it down rather closely, and then turning them off for ten days or a fortnight. When the apples begin to fall in any quantity, use it as pasture for pigs and calves until the apples are fit for gathering; if the former root over the ground considerably, it will do no injury. Turn in sheep and pigs again after gathering the apples; apply more ashes, and if the improvement be too slow, give a dressing of rotten manure the second year, harrowing it in. If this course will not improve the product of fruit and grass, *plow it up*, and keep the soil mellow and free from weeds by frequent cultivation, for the season. Seed again to grass for pasture, not for mowing, as before. J. H.

Plan of a Small House.

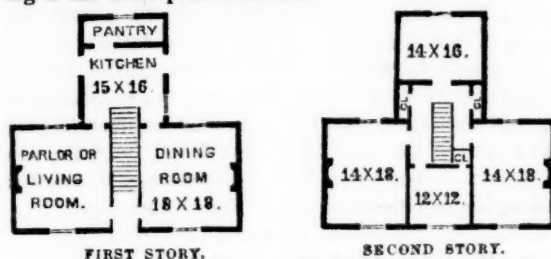
We receive many plans of houses, for which our correspondents who furnish them will accept our thanks; but unfortunately, most of them have so many defects, that we cannot rectify them without much labor. The one we here give, from H. HUFFMAN, of Richland Co., Ill., is an exception and is remarkable for its convenient arrangement, and the compact disposition of the apartments. We have corrected one or two slight defects, however—one, by removing the closet which was directly over the stairs, and which would consequently obstruct them, to one side, making the central room above a little smaller for this purpose. No provision was made for lighting the upper entry—it may be done by means of a dormer window, or by the omission of one of the closets at the side. We have drawn the



DOYENNE ROBIN.



plans from the rough sketch, and substituted a perspective view for the two elevations furnished. The following is the description sent us:—

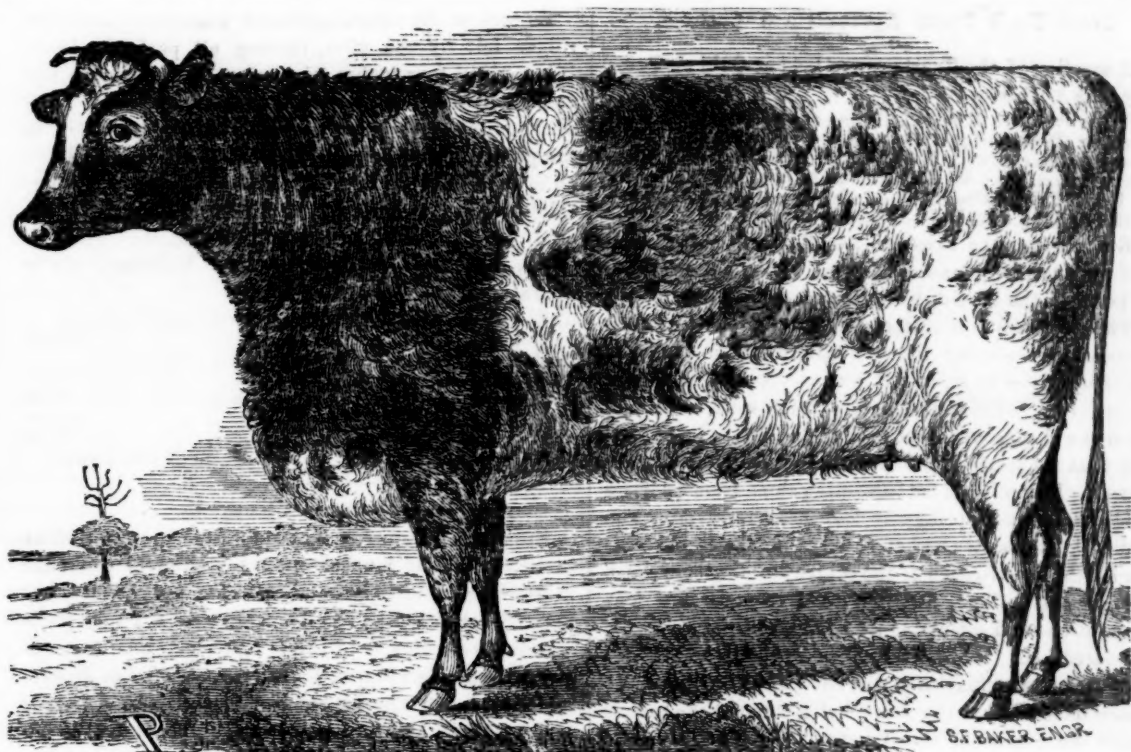


FIRST STORY.

SECOND STORY.

"In this plan I did not extend the hall further than the foot of the stairs, in order to make my stairs wider, and diminish considerably their cost. In the three rooms so well connected—the living-room, the dining-room, and the kitchen, are transacted all the business of a house; the housekeeper can give her orders and see them executed, almost without leaving her room. To visitors and strangers I assign the front door, which will take them to any apartment except to the sanctum sanctorum, or the kitchen. Under the stairs can be made closets for the two rooms, right and left. Easy steps lead up stairs to a hall which forms the center of four rooms; the closets on each side of the hall will also be found convenient for the general use of the house. The closet in the central room above will add to its comfort.

Further explanations are useless—the distribution and arrangement once drawn on the paper." H. H.



"CHATELAINE."

"Roan, calved Jan. 1, 1855—bred by the late N. J. Becar, Esq., of Smithtown—owned by JAMES O. SHELDON, White Spring Farm, Geneva, Ontario Co., N. Y. Got by Balco (9918)—dam Lady Booth by Chilton (10,054)—g. dam Rosalba by Buckingham (3239)—g. g. dam Rosabeila by Highflyer (2122)—g. g. g. dam Rachel by Frederick (1060)—g. g. g. g. dam by Planet (502)

Seeding Grass Lands.

MESSRS TUCKER & SON—In answer to the inquiry of J. T. R. of Lenoxville, Susq. Co., Pa., I would say, if he had given me the general character of his soil, I could very readily have told him, not only the proportions, but the different kinds of seed he should sow for pastures and meadows. For the want of such information, I will state in the first place, what I suppose is the prominent character of the soil. The drainage of nearly if not all the county is to the Chesapeake, and nearly if not the whole of the land on all of the branches of the Susquehanna near their sources, is soft water surface, with lime-water subsoil. As a lime-water surface soil requires from one-fourth to a third more rain in the course of the growing season, it makes a great difference as to the kind of seed that is sown, as some kinds of grass stand the drouth much better than others, whilst that which stands the drouth best does not stand the frost as well in many instances; consequently more clover should be sown on lime-water land; as all who observed and remember the excess of red clover in their meadows in 1854, and again in 1856, during those severe drouths, understand the cause.

The clover has a tap root, which draws moisture much deeper than other grasses. The winter or spring of 1857, froze and thawed out so frequently and severely, that it killed out much of the clover, which was the reason the meadows in '54 and '56 contained so much clover, and so small a portion in '57.

If the soil of J. T. R. is what I believe it to be, I would recommend 6 quarts timothy, 4 do. red-top, 2 do. blue grass, 2 do. white Holland clover, 4 do. red

clover. The red-top and blue grass do not make their appearance the first season; hence the necessity of the red clover, which helps to fill up the vacant places, and protect the small grasses when they have partly rooted. In ordinary seasons they will bind out the red clover, which if not frozen out, will remain ready to grow when too dry for the red-top or timothy. All of the seeds can be had at Allen's or Thorburn's seed-store in New-York. Red-top is worth from two to four, Kentucky blue grass from four to six, and Holland clover fifteen or sixteen dollars per bushel. The white Holland clover grows taller, and is therefore much better than our own for meadows, though no better for pasture. A. B. DICKINSON. *Hornby.*

Cure for Canker Sore Mouth.

Wash the mouth with a decoction of Canker Lettuce. The tea made from the leaf is not bitter, requires no sweetening, and has been known to sweep the canker off from the mouth and tonsils the first time it was thoroughly applied, requiring only a few subsequent applications to keep it off until the parts had time to heal. No M. D. [What is "Canker Lettuce?"]

Readers have doubtless noticed Fowler & Wells' advertisement of "The Garden Manual of Horticulture," which has appeared once or twice in our columns. A copy of the work before us we have looked over with much interest. It is judiciously compiled, and worth its full cost to any one with a door-yard or a farm to take care of. We shall order some copies for the benefit of readers who enclose us 30 cents for the the pamphlet edition, and 50 for that in cloth.

New-York State Agricultural College.

A meeting of the Trustees was held at Ovid on Tuesday, the 4th instant—

PRESENT—Gov. King, Chairman of the Board; Samuel Cheever, President; William Kelly, Henry Wager, Addison Gardner, Josiah B. Williams, William Buell, Abraham A. Post, Maj. W. R. Patrick, Alexander Thompson, M. D., E. P. Prentice, Benjamin N. Huntington, James O. Sheldon, Arad Joy, B. P. Johnson.

Reports from the President and Treasurer of receipts and expenditures, and statement of the funds at the disposal of the Board, were presented and read.

The Building Committee submitted a report of their proceedings—stating that an examination had been made upon the farm, and it was ascertained that good material for the manufacture of brick were to be had upon the farm convenient to the buildings to be erected and that proposals for their manufacture had been received. Propositions for furnishing stone from quarries at Waterloo and Springport had been received. The Building Committee had solicited estimates from builders for the construction of the centre building and south wing of the College, and presented to the Board four propositions and estimates from different parties for its consideration.

After an examination of the several propositions, the Board decided that the same being beyond the means under the control of the Trustees, were inadmissible, and the Building Committee were instructed not to accept either of the propositions.

A resolution was adopted, that the Building Committee procure one or more plans for the erection of buildings to accommodate at least 100 students, the cost of the same to be within the means of the Board.

The Trustees examined the farm and made arrangements for the management of the same at reduced expense; and adjourned to meet at the call of the Chairman at as early a day as practicable.

The Building Committee expect to be able to present to the Trustees plans in accordance with the resolution adopted, early in June; and should the same be approved, intend to proceed immediately with the erection of the buildings. B. P. JOHNSON, *Secretary*.

Experiment in Potato Culture.

MESSRS. EDITORS—Last spring, having about three acres of poor sandy land, (so poor that I feared it would not pay the cost of cultivation,) which I wished to sow with wheat the ensuing fall, I thought I would experiment with potatoes. Below I give you my manner of cultivation and the accompanying results, which though not as good as Mr. Gerald Howatt's, yet taking into consideration the condition of the soil, which the year before produced *nine and one-half* bushels of corn per acre, I think I have done passably well.

Cultivation—First plowed the land nine inches deep, then harrowed; then drew trenches eight inches deep three feet apart; then sowed a mixture of guano and plaster; then run a sub-soil plow in each row, mixing the compound with the soil; then planted the potatoes sixteen inches apart in the row; then covered with barn-yard manure; then sowed a mixture of plaster, lime and ashes on the manure, covering all with soil, using a one-horse plow. I tried some, putting the potatoes on the manure, which yielded eleven bushels more per acre. This I attribute to the exceeding moisture of last year.

As soon as the shoot appeared, I harrowed down the ridges left by the plow, leaving all perfectly level. When about four inches high, went through with the cultivator and hoe. At the first appearance of a blossom bud, went through with a plow, throwing soil to the plants, following with hoes again. Though planted in March, I waited until October before gathering, thinking they would keep better in the ground than out. Took them out with plow and harrow. The potatoes were all sound and good. Varieties, Early Mountain June and White Mercer.

| | |
|---|----------------|
| The product was 120 bushels per acre, which were sold at 75 cents per bush..... | \$90.00 |
| Cost of cultivation, manure, and seed, and interest on land..... | \$22 90 |
| Sending to market, at 20 cts. per bush..... | 24.00 |
| | <u>\$46.90</u> |

| | |
|----------------------|-------------------|
| Profit per acre..... | \$43.10 |
| Surry Co., Va. | T. L. MEINIKHEIM. |

Recipe for a Cheap Beer.

EDITORS OF COUNTRY GENTLEMAN—A correspondent in your valuable journal, makes inquiry in reference to brewing spruce beer. As many of your subscribers may be benefitted by the following recipe, I take pleasure in forwarding it to you. I use it in preference to *coffee* in the morning, in preference to *wine* at dinner, and consider it superior to *tea* at supper. It is a valuable aperient, and for dyspeptic patients is a valuable medicine.

Prepare a five or ten gallon keg, in proportion to the size of the family—draw a piece of coarse bobinet, or very coarse book-muslin over the end of the faucet that is inserted into the keg, to present its choking, a good tight bung, and near to that a gimlet hole, with a peg to fit it tight.

Recipe for Five Gallons.—One quart of sound corn, put into the keg, with half a gallon molasses; then fill with cold water to within two inches of the bung. Shake well, and in two or three days it will be fit for use. Bung tight.

If you want spruce flavor, add one tea-spoon of essence of spruce—lemon, if lemon is preferred—ginger, or any flavor you prefer. The corn will last to make five or six brewings; when it is exhausted, renew it. When the beer passes from the vinous to the ascetic fermentation, it can be corrected by adding a little more molasses and water.

This is a simple, cheap beverage, costing about three cents a gallon. After the beer becomes ripe, it ought to be kept in a cool place, to prevent it from becoming sour before it is exhausted. B. Conecuh Co, Ala.

AGRICULTURAL MACHINERY.—A Coeymans Farmer furnishes us with some remarks on the machines which he uses. He says:

"For a mower, I have one invented by Mr. Hallenbeck of Albany. Since trying and testing it for four seasons, and having seen others in operation, and especially having been an eye-witness at the great trial at Syracuse last summer, I am fully satisfied with my choice.

My grass being cut and hay made, I use one of Dederick's Parallel Lever Hay presses, with which I am well satisfied, and might write a long letter on its advantages. For thrashing, I use the "Excelsior" horse power and thrasher. This I have had but two years, and am well pleased with it.

In conclusion, I will only say that manufacturers are not as careful as they ought to be in the selection of materials, and the quality of the work. Many farmers still refuse to buy because they think manufacturers make too much profit. This objection will gradually give way, if machines only prove durable and well fitted in all their parts to perform the work for which they are designed.

Culture of Millet.

Although Millet has been cultivated to a small extent in various parts of the country for twenty or thirty years or more, and favorable reports of it as a forage crop been almost every year published, it is still but little known, and is not, there is good reason to believe, as highly appreciated as it deserves to be. Its recent introduction and successful culture at the west, however, has served to awaken renewed attention to it, and as many will this year probably give it a trial, a few remarks on its culture may be particularly useful at this time.

THE SELECTION AND PREPARATION OF THE SOIL.—The soil which seems generally to be preferred by those who have cultivated millet, is one that is warm, sandy and rich, though it is said that any soil that would produce a good crop of wheat or Indian corn, would produce a good crop of millet. To get rid of weeds, a piece of ground that has been well hoed for corn or potatoes the year before, would be especially suitable; or the land designed for millet might be plowed when plowing for oats, barley or any early crop, and then again just before sowing. Weeds sometimes get the start of millet, as it usually comes up slow and fine. Whatever the soil may be, it should be well pulverized, as, indeed, the seed bed of all small sized seeds, and of such as vegetate slowly at first, should be one of fine tilth. The seed should be covered lightly, and rolling will make it catch more certainly.

QUANTITY OF SEED AND TIME OF SOWING.—When fodder is the principal object, as it generally is, the quantity of seed most approved seems to be from 12 to 16 quarts, though as high as 40, and as low as 4 quarts have found favor with some. On a patch intended for seed, 8 quarts or less would be sufficient.

As millet is ready for harvesting in about ten weeks from the time of sowing, if it start early, there is no propriety in sowing until the ground and weather are both quite warm. It grows very slowly in cool weather, so that weeds are apt to get the start of it. From the first to the middle of June is early enough. In the *Cultivator and Co. Gent.* of last year, it is stated that a piece sowed on the 18th of June was harvested on the 24th of Aug.; and that another piece sowed on the 1st July, was harvested on the 10th of Sept. The sowing and harvesting of this crop can thus be made to come at seasons when other operations on the farm are not very pressing. This is one of its recommendations.

HARVESTING, YIELD, &c.—When designed for hay, millet should be cut while in the milk, or when the seeds are doughy. If allowed to stand any longer there will be loss in three ways, viz., from shedding the seed, from birds picking at the heads, and from the straw becoming more woody and less nutritious, and less palatable. It should not be cradled and bound into sheaves, save that portion that may be designed for seed; but should be cured very much as clover, that is, mainly in small cocks. After sweating in these a day or two or more, according to the weather and other circumstances, it should be turned out to air and dry off, and then be put up again in larger cocks. These may be required to be opened if there is any moisture from sweating and other causes; and care must be taken to have the hay thoroughly cured before it is stacked or mowed away in barn, as it is somewhat difficult to cure, and has not unfrequently been injured

by mouldiness from being put up too early. From the lateness in the season when it must be made into hay, and from the length of time required to cure it *thoroughly*, hay caps may often become quite serviceable in the process.

The yield varies from about two tons per acre to about four. Mr. A. Y. MOORE of Mich., has had four tons per acre, and D. C. of Waltham, Mass., reports that he raised three tons per acre, while the grass lands of Mass. do not yield, on an average, over one ton of hay per acre. T. B. SHEPARD of Buffalo, raised in 1851, more fodder from four acres in millet, than from any eight acres in grass.

VALUE, USES, &c.—Almost all who have recorded their experience with millet, as a forage crop, agree with Mr. A. Y. Moore, who says that his stock *prefer it to all other hay*.

Some have used it cut green for soiling, and have spoken of it as better for this purpose than corn so used. Some milk-producers have used it in the green state, and have spoken well of it.

One recommendation of millet-hay is, that it furnishes *variety*; and that *variety* in food for our domestic animals is gratifying and beneficial might be easily made apparent both from the facts of observation, and from theoretical considerations.

Another recommendation of this crop is that it can be sowed and harvested at a time when other work is not pressing urgent.

Its greatest recommendation, however, as a forage crop, is that it furnishes a *large quantity* and a *good quality* of food for stock. If hay should be scarce, or it were desirable to keep an extra quantity of stock, a crop of millet would supply the means, and prove one of the best substitutes for hay.

As millet is rarely raised for the purpose of feeding out its seeds as grain, we would merely say that the seeds which shell out when the hay is handled, should be saved, and ground alone or with other grain. For farther remarks upon the value and uses of the grain we would refer the reader to last vol. of the *Co. Gent.*, p. 192, or *Cultivator*, page 322.

Rotation for a Clayey Farm.

"What is the best system of culture and cropping for improving a clayey soil?" asks a farmer whose lot is cast in what was once an almost interminable swamp, but which the "clearing of the country" has brought into partial culture. "I can find nothing definite on the subject, though I have searched many volumes of the various agricultural publications of the last dozen years. There are hints, but nothing taking up the question as I state it."

We find this to be very near the case, so far as American agricultural literature is concerned. WREN HOSKYN has written his "*Chronicles of a Clay Farm*" in Great Britain, and gives us his panacea for the ills of clay, but its application is thought to require too much, both of capital and labor, for general use in this country. But wherein differs clayey from other soils? Let us look at it.

What are the evils of clayey soils? They are *hard* when dry, instead of being open and porous. When wet, they retain moisture a long time—they lack, in one word, *natural drainage*—the surplus moisture can not freely pass down through the under soil. This

makes them cold—evaporation always involves a loss of heat—and hence vegetable growth is slower than upon a porous soil.

What is the remedy for these evils? **THOROUGH DRAINAGE.**

A thoroughly drained clayey soil is one of the best soils which can be chosen for most agricultural purposes. Thus drained, instead of being retentive of moisture, it is open and porous—instead of being cold and sterile, it is warm and fertile.

Then you may take any system of rotation founded on common sense in agriculture, and carry it out on your clayey soil. Manure may now be applied to some purpose—wheat and clover will not winter-kill—the leaven of drainage works through the whole lump, and enterprising and intelligent labor can be applied to some purpose.

But leaving "Thorough Draining" out of the question, "What is the best system of culture and cropping for improving a clayey soil?" Suppose a field is now in grass, and yields but a partial crop, what shall be done with it? Here is one course to pursue:

1. Fall-plow late in the season, as neatly as possible, making narrow lands in the direction of the greatest descent, deepen and clear every dead furrow, so that no water may stand anywhere on the surface.

Sow in the spring to oats, first harrowing thoroughly—but without re-plowing. See to surface drainage as before.

2. In the fall, plow again in the same direction as in breaking up, unless there is nearly equal descent another way, making the dead furrows in the center of the old lands, deepening and clearing these as in the first breaking.

Plant to corn in the spring, using the harrow and gang-plow to mellow the surface, and applying compost of muck, barn manure and ashes—leached or unleached. Top dress with plaster, after first hoeing.

3. Plow again in the fall, throwing two lands into one, surface-drain thoroughly, taking care to get a clear outlet for the water.

Sow to spring wheat or oats early in spring, and seed down to clover and herdsgrass, top-dressing with a bushel of plaster per acre.

4. Let the land lie in grass as long as it produces well with the help of plaster and a triennial dressing of compost, early in autumn. Put in underdrains as soon as possible.

We ask the aid of correspondents, who have had experience in cultivating and cropping clayey soils, in throwing light on the question first above proposed. Let no anxious inquirer be left hereafter to grope in the dark for "something definite" about the best system of rotation for a clayey farm, for of such farms there is no lack in many sections of the country.

Grinding Feed and Farm Mills.

EDS. CULT. AND CO. GENT.—As you request information about Farm Mills, I will give you my limited experience. I prefer the "Young America Mill." I have ground about 300 bushels with mine, and the rings are good yet. When they wear out I can get another set for \$3. The mill cost \$50, with two sets of rings—one coarse, for soft corn, and one fine for hard, which is a great advantage. The only objection I have to "lever" mills, is the sweep they take, as it is a great

advantage to have it housed for grinding in cold and stormy weather. Mine takes 28 feet clear.

As to economy, I think two bushels goes as far as three unground. I should prefer it as fine as clover seed, or finer; if coarser, the manure will report it. I mix mine with straw or hay, as it gives them a chance to chew it better, and I get rid of feed they otherwise would not eat. Oats and corn, mixed half and half, makes good feed for horses—at least mine do well on it.

I can grind meal fine enough to eat, with the "Young America," at the rate of three bushels an hour—coarser, from four to six bushels. E. P. ST. JOHN. Oberlin, Ohio.

Farming that Pays.

The system of farming which in six years has enabled Mr. METCALF of Ontario county, to renovate a badly worn farm of 128 acres, and at the same time pay by its products, a debt of \$4,000 on the same, shows itself a good one beyond dispute. His method, though not differing essentially from that of many other good farmers, does vary materially from that which left on the farm at the time it came into his possession, eighty acres of stubble, without one foot seeded to clover—and deserves especial notice in our columns. To Mr. M. was awarded the first premium on farms of the Ontario County Ag. Society, and we gather these items from their annual report in the last volume of State Transactions.

The soil is a clay loam on a clay subsoil—100 rods of underdrain have been laid, mostly of stone, doubling the yield of barley and wheat thereby. Mr. M. plows from five to eight inches deep—the latter depth producing the best wheat and barley—the former, turning under long manure and clover of one or two year's growth, the best corn. This he cultivates as follows: If the land has been much cropped, gives twenty loads of coarse barn-yard manure to the acre, plows once, just before planting, harrows and marks out three and a half feet each way; plants the eight-rowed yellow corn about the middle of May. As soon as the rows can be seen, passes through with corn cultivator, then top-dresses with ashes and plaster mixed in equal parts, at the rate of a handful to three hills; the cultivator is then passed through once a week until it commences to tassel; he hoes but once.

Mr. Metcalf has given considerable attention to raising wheat. After preparing the land by summer fallowing, he draws on finely rotted barn manure, spreads and harrows it in, thinking this the best way it can be applied to the wheat crop. He has used plaster, guano and ashes for wheat; sowed 100 lbs. per acre on a portion of a lot, and the balance dressed with Cayuga plaster and unleached ashes. Could see no difference in the effect, and believes plaster and ashes increase his crops of grain and clover one-fifth, wherever applied.

Of course much attention is given to manure—and he makes 300 loads annually from the hay, corn fodder and straw fed in the yard and stables. Horse and cattle manure is mixed daily with the straw in the yard. He sows Cayuga plaster on all the land sown to wheat, oats, or barley, at the rate of a bushel and a half per acre, and relies on this and home manufactured manures, for the improvement of his farm.

Uniformity of the Seasons.

METEOROLOGICAL TABLE,

Showing the average temperature for eleven years—1847 to 1857. The observations were made at 6 A. M. from first of May to first of November, and at 7 A. M. from first of November to first of May.

| Monthly average. | '47 | '48 | '49 | '50 | '51 | '52 | '53 | '54 | '55 | '56 | '57 |
|------------------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| January, | 27° | 31° | 25° | 31° | 31° | 23° | 28° | 28° | 31° | 21° | 19° |
| July, | 69 | 67 | 67 | 69 | 68 | 68 | 67 | 71 | 70 | 70 | 68 |
| | 96 | 98 | 92 | 100 | 99 | 91 | 95 | 99 | 101 | 91 | 87 |
| | Average 47½° | | | | | | | | | | |
| February, | 27 | 27 | 23 | 31 | 32 | 28 | 31 | 27 | 23 | 22 | 33 |
| August, | 66 | 66 | 67 | 66 | 64 | 65 | 68 | 68 | 65 | 66 | 69 |
| | 93 | 93 | 90 | 97 | 96 | 93 | 99 | 95 | 88 | 88 | 99 |
| | Average 47½° | | | | | | | | | | |
| March, | 31 | 32 | 36 | 33 | 36 | 34 | 36 | 34 | 33 | 28 | 32 |
| September, | 59 | 57 | 58 | 60 | 60 | 59 | 62 | 62 | 60 | 60 | 60 |
| | 90 | 89 | 94 | 93 | 96 | 93 | 98 | 96 | 93 | 88 | 92 |
| | Average 46½° | | | | | | | | | | |
| April, | 41 | 44 | 43 | 41 | 45 | 40 | 45 | 43 | 44 | 45 | 40 |
| October, | 47 | 49 | 48 | 49 | 52 | 52 | 48 | 52 | 50 | 49 | 50 |
| | 88 | 93 | 91 | 90 | 97 | 92 | 93 | 95 | 94 | 94 | 90 |
| | Average 46° | | | | | | | | | | |
| May, | 52 | 57 | 50 | 50 | 54 | 54 | 55 | 55 | 52 | 51 | 52 |
| November, | 43 | 37 | 45 | 42 | 39 | 40 | 43 | 42 | 43 | 40 | 40 |
| | 95 | 94 | 95 | 92 | 93 | 94 | 98 | 97 | 95 | 91 | 92 |
| | Average 47° | | | | | | | | | | |
| June, | 61 | 63 | 64 | 64 | 61 | 63 | 65 | 64 | 62 | 64 | 62 |
| December, | 36 | 38 | 31 | 33 | 25 | 38 | 30 | 27 | 33 | 30 | 36 |
| | 97 | 101 | 95 | 97 | 86 | 101 | 95 | 91 | 95 | 94 | 98 |
| | Average 47½° | | | | | | | | | | |
| Yearly average | 46½ | 47 | 46 | 47 | 47 | 47 | 48 | 48 | 47 | 45½ | 46½ |

1858—Average, for Jan., 32½°—Feb. 24°—March 32°—April 44°.

Hungarian Grass.

MESSRS. EDITORS—I tried the experiment last year, with 100 acres, and found that my highest expectations were more than realized. Timothy does not do well on our prairies. The Hungarian does, and just fills the space. Our entire community are sowing it this spring. It is the best hay I ever saw. Twenty-five acres of mine was caught by the frost, which did not injure it at all for feed. We sow fifteen pounds to the acre. Last year I gave \$6 per bushel for my seed—this year it is worth from \$1.25 to \$2. Two crops can be cut from that which is sowed from the 15th of May to the 15th of June—as it will sprout up at once after being cut.[?]

On account of the drouth last year, the seed on a part of my field containing 25 acres, did not germinate till we had a good rain, August the 10th. I cut two tons to the acre, or nearly that, from this part of my field.

It can be sowed any time from the first of May till the first of July. Prepare the ground as you would for oats; harrow, and then sow the seed; then harrow the second time and roll it, and you will get on good land from three to five tons per acre. The leaves will remain green till the seed is fully ripe, and they never crumble when dry, like some grasses. J. M. LINCOLN. Elvaston, Ill.

Culture of Sage.

A few suggestions to those who have old sage roots, from which they wish to raise sage, may not be amiss. If you wish to get a fine crop of sage from such roots, separate and transplant them carefully, cutting the old tops off close to the ground. If you wish to raise seed leave the tops on. Try it, all who have never done so, and I assure you it will amply repay you. E. ALLIN.

Cheap Temporary Fence.

I have been making a fence that for cheapness and efficiency combined, excels anything with which I am acquainted—I call it the skeleton fence. I made it as follows: I laid down the rails just so that the ends would lap three or four inches, and with an iron bar worked a hole as deep as was convenient. I then sharpened some oak stakes, and drove them down firm; I then, with a half inch augur, commenced four feet from the ground, and bored holes through the stakes at right angles with the length of the fence, four or five inches apart, for the upper rail; and then the distance apart that I want the rails I bored two more, and so on, until I made enough for as many tiers of rails as I needed. I then commenced attaching the rails. I bored through each end of the rails a half inch hole—then took a piece of annealed fence wire, put it through the rail, then through stake, then through the other rail, thence back through the upper hole, until the ends connect, and were twisted together; and so on until the fence is completed. The fence appears thus:

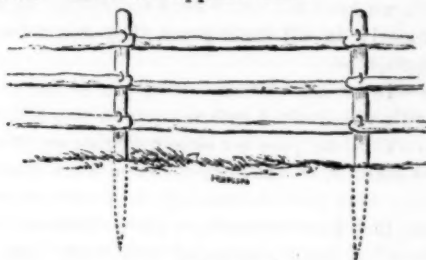


Fig. 1.

Fig. 2 is a larger end view or cross section of a portion of the post and two rails, showing the mode of passing the wire through.

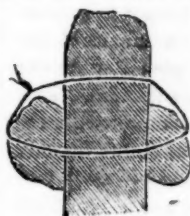


Fig. 2.

You will see that one wire fastens the ends of two rails in such a manner that you get its double strength. The fence has a neat appearance, and every one will see the many advantages which such a fence possesses. One rail is fastened on one side of the post, and the other the other, so that they balance, and right opposite to each other. I invite all to call and see my fence. CALES WINEGAR. Union Springs, N. Y.

We have examined a specimen of this fence, and think it the best, least cumbersome, and neatest temporary fence of common rails we have met with for excluding the larger animals, where the farmer does not already possess hurdles. The wire passing through both post and rails, the latter can never be displaced, so long as the posts stand. We have estimated the cost of this fence as follows, for 20 rods or 28 lengths, each 11½ feet long:—

| | |
|---|--------|
| 84 rails, six cents each, | \$5.04 |
| 28 posts or stakes, say four cents, | 1.12 |
| Annealed wire, | 50 |
| Two days labor, | 2.00 |

\$8.66

Or 43 cents per rod. A variation in the cost of rails will vary the cost accordingly. A little practice would probably enable the workmen to erect 30 rods a day on average soils. This fence, well made, is stiffer and more secure for cattle than a common worm fence, and much more so than a wire fence of twice its cost. It could be easily erected on prairies.

Inquiries and Answers.

DITCHING MACHINES.—("A Subscriber," *Scottsville, N. Y.*) There is at present no good ditching machine, that performs all the work of excavating. Pratt's operates well where there are no stone, but its high cost excludes it from most farmers. There have been several subsoil plows manufactured for this purpose, to run deeper as the ditch increases in depth, and to loosen the earth for shoveling. We are unable at present to give the manufacturers' names, but we are informed they have proved efficient helps in excavating. The labor of loosening or picking the hard subsoil, is two-thirds or three-fourths of the whole amount; and a good subsoil drain-plow, with two stout horses, would loosen the earth as fast as eight or ten men would throw out with shovels. We have been informed on good authority, that where the soil has been thus loosened, one man would shovel out ten rods three feet deep in a day—making the expense only about fifteen cents a rod. The two machines proposed by our correspondent, we think would not work well for several reasons which we have not space here to explain, as when made properly in all their parts, they would become quite complicated.

PLOWS—LIME AND MUCK.—Will you oblige a subscriber with the desired information on the following points—1. The best plow for either ridging up or turning under stubble, on the stiffest character of clay soil. Some of my land is so exceedingly stiff and waxy, or putty-like, that I can procure no plow which will work efficiently—2. I have a piece of thin sandy land, too far distant to improve conveniently by hauling manure from my residence. On it, however, I have a bluff of lime-rock, overlooking a swamp containing much undecayed vegetable matter. Do not this lime-rock and vegetable matter furnish the means of improving the adjacent soil, and if so, please state the best manner of preparing and applying it. **INQUIRER Miss.** [Burn the lime, and make a compost with the vegetable matter. If a small portion of stable manure could be added to the compost, it would be much better. If the vegetable matter is undecayed, like fresh straw, it will not make a good compost with lime, and could only be used to advantage on barn-yards. But if like fibrous or coarse peat, it may be used as proposed. We do not know a better plow for the purpose named, than that made by Ruggles & Co., at Worcester, for stubble plowing. There may be others as good which we cannot name.]

GRAFTING.—Please inform me through the Cultivator where I can get a book that will contain full instructions for grafting, &c.—the price also, and you will oblige **A NEW SUBSCRIBER.** [In our Illustrated Annual Register for 1855—price 25 cents, sent by mail post-paid.]

FOOD FOR PIGS.—Occasionally I read in your columns an article on raising spring pigs, and the advice given to feed with milk. This is without doubt the very best thing. But suppose a man has not the milk, and is not in the circumstances to procure it, what is the next best food for them? **W. Iowa.** [We invite our correspondents to furnish such practical information as they may possess on this subject.]

LIME BRICK—ITS VALUE.—In the Co. Gent of 26th April, I see an article headed "Lime Brick," an inquiry for information. I will answer his first question

by saying that a friend of mine living at Fond du Lac, Wisconsin, writes that they are building large blocks of stores with the lime and sand brick, and he says he prefers it to burnt brick, as it is better and cheaper. He says that it will take but very little more lime to make the brick and lay up the wall, than it will to lay the burnt brick. I have a letter from a man near Kingston, who is making the same brick. He writes that after they stand one month to harden, the wet and frost will not affect them in the least. Another advantage is, they are large; the size of the brick is five inches thick by ten inches long and four inches wide, which makes a wall ten inches thick, leaving a space of two inches in the center, making a hollow wall, and only requiring one light coat of plaster on the wall, as it is as smooth almost as glass. I did intend to build with the granite brick, and sent to Wisconsin for a press, but it did not come as soon as I expected, and I had a chance to purchase at a sale, burnt brick at \$1.25 per thousand, so that I have the machine on hand, and will sell it for for what it cost in Wisconsin, which is \$100. The press will make 1,200 to 1,500 per day. It will take two men and a boy to work it to advantage, but two men can work it very well. If your correspondent will give me his address, I will send him a description of the press, and the manner of making brick—1,500 will be a little more than equal to 4,000 burnt brick. It will take one-eighth lime and seven-eighths sand. **JOHN S. M. WILCOX. Whitby, C. W.**

TENDER MOUTHED HORSES.—Can you or any of your readers inform me what will cure a tender mouth of a horse. I have a noble mare that is so tender bitted that she will hardly bear the weight of the lines, and if any of your subscribers will inform me how to cure her, they will oblige **H. P. L.**

DERICK'S HAY PRESS.—Permit me to state, in answer to an inquiry, that the price of this Hay Press is as follows—No. 1, \$165—No. 2, \$140—No. 3, \$130. w.

DISEASE IN YOUNG SHEEP.—My flock of lambs or yearling sheep, have been visited with a fatal brain disease within a few months past, that I cannot account for. Symptoms: dizziness, hard and quick breathing, sometimes panting. They live from 12 to 36 hours after taken. They are fat, have wholesome food, pure air, but not pure water. Would this be a sufficient cause for the disease? Upon examination after death, in one instance the brain seemed to be entirely consumed—nothing left except the sack of the brain, which contained a bright blue substance. In other cases were found the ordinary works of fever, or inflammation of the brain. Any information upon this subject would be most thankfully received. **G. G. BENTON. Manchester.**

GALLOWAY CATTLE.—Can you furnish the address of the gentleman in Canada who breeds the Polled Galloway Cattle? [We cannot. Perhaps some of our Canada subscribers can.]

GUANO FOR NEW GRASS LAND.—I have about 20 acres which I wish to sow in oats, and seed down with orchard grass and clover, and wish to apply upon half of it 200 pounds of Mexican guano to the acre, for the benefit of the grass seed. I shall drill in the oats with Bickford & Huffman's drill, which has guano attachment and grass seed sower, but I fear if I apply the guano with the drill the oats will get nearly all the benefit, and I shall not get an even stand of grass.

Would it answer after drilling the oats, to sow the seed and guano broadcast and harrow them in, or would that uncover the oats? [Loamy soils that have some clay, will absorb the strength of guano, and give it off for at least a year or two—hence a considerable portion will be left after the oat crop. On very light soils the case would be different, and it would perhaps be better to sow the guano late in the fall as a top-dressing, to be washed in by the rains. If sowed with the oats, it should be buried as deep as the oats, in order properly to benefit the grass roots, and we would not recommend sowing it immediately afterwards, as proposed. If our correspondent could sow his grass seed early in spring, and without oats or any other crop, it would doubtless do best. Such at least is our experience.]

GRAIN DRILLS.—One inquiry about the drill. I notice my wheat which was put in with the drill, that upon the hill-sides, where the soil was loam, that the wheel in running in the drill furrow, (which is necessary in order to have the drills uniform in width,) put the seed too deep to vegetate—how shall I remedy the evil in drilling the oats? Would putting a broad tire on that wheel help the matter, or shall I raise the drill tube, so that it will row on the surface, to be buried by the wheel. J. R. GARDNER. *Sunnybank, Va.* [We have applied to Bickford & Huffman for information, and when we receive their answer, will give it to our readers.]

DRILLS, THRESHERS, ICE-HOUSE, &c.—We furnish the following answers to the several inquiries of a correspondent at Cedar Point, Va. 1. Bickford & Huffman's wheat drill is one of the best if not the very best now made—it can be ordered of them from Macedon, N. Y. The price varies with the size, \$75 and upwards. 2. Excellent two-horse thrashing machines are made by Emery & Co., R. H. Pease, and Wheeler & Co., all of this city, and Westinghouse & Co. of Schenectady, either of whom will send circulars with prices, &c., in full, on application. 3. One-horse mowers and reapers have been proposed, but we are not aware of the manufacture of any. 4. An ice-house built of brick would answer the desired purpose if a stratum of one foot of sawdust were placed between the brick wall and the ice,—to be kept in its place either by a wood partition placed a foot from the brick, or filled in after the ice is built up leaving a foot space.

WILD FRUITS.—Can the wild gooseberries, grapes, cherries, and strawberries, be replanted and attended to, and thus improved? This country abounds with such wild fruit—also fine wild plums. Please answer my simple questions. I wish you could see our prairies, covered as they are now with white, blue, and yellow flowers, some really exquisite in form and color. The prairies seem one great flower garden. JOHN DOY. *Lawrence, Kansas Ter.* [It is doubtful whether the wild fruits mentioned would prove equal to our best cultivated sorts—but it is easy to try them. A friend, believing that the wild strawberries of Western New-York were more delicious than any cultivated variety, planted them in his garden along with Burr's New Pine, Large Early Scarlet, and several others of the best sorts, but when they came to bear, they were inferior to all—partly no doubt from the fact that hunger and abstinence had given a keen relish to the wild fruit when eaten. We have known an orchard of wild plums planted from the woods; and, as in their native

localities, some were excellent, many poor, and a large portion of a middle character. We should like much to see an effort made to select the finest and most productive wild plums, and attempts made to improve them—something valuable might be had, as the wild plum possesses such superior hardiness, and will grow vigorously on light or gravelly soils, where the common plum dwindles and fails.]

LIME BRICK.—"An old Subscriber" of North Plantagenet, C. W., is informed that two persons arrived in Lawrence from Wisconsin, about a year since, with machines and men, to commence to make brick from lime and sand. Three houses were built, also the front of a fine store. But all cracked and crumbled to pieces in a short time. The persons that contracted lost considerable. In fact, here they are an entire failure. Whether it is owing to a want of knowledge of the quantities of sand and lime to mix, I am not able to say, but some say this is the cause. JOHN DOY. *Lawrence, K. T.*

OSAGE HEDGES.—I wish to make several inquiries in regard to Osage Orange for hedges. 1. Whether it is better in single or double rows; if double how far apart each way? 2. If two year old plants are procured from the nursery, is it better to cut the tops to the roots before setting out, or wait till next spring? I. W. *Bennington, Vt.* [It is best in single rows, and may thus be more easily and perfectly cultivated. The distance should be about eight inches. Cut the tops nearly to the roots when setting out, and they will be more likely to grow and sprout up vigorously. Then let them grow two years without cutting, till the whole top has given a very strong root—then cutting back properly will quickly make a very stout hedge. Although not asked, we will say, that no osage hedge should be planted where a strip of land at least five feet wide on each side, cannot be kept constantly and thoroughly cultivated, clean, and mellow, for the first five years. If this cannot be done, sell, throw away, or burn all the plants before setting them.]

GERMAN MILLET AND HUNGARIAN GRASS SEED.—Why is it that some seedsmen are asking six dollars per bushel for this seed, under the name of Hungarian grass, when they know they are one and the same thing? In sowing it, should I sow upon the furrow and harrow, or harrow the ground first, and then sow and brush them in? [If the ground after plowing is in fine mellow condition, and has been plowed with narrow furrows, so as to leave an even surface, sow before harrowing; but if rough or cloddy, harrow well first.]

Is it so?—A writer in *The Homestead*, giving a description of the township of Orange, immediately west of New-Haven, and of the farm of ELISHA DICKERMAN in that town, makes the remark, which we doubt not will surprise many, that Mr. D. is one of the numerous instances in that State (Conn.) of a mechanic turning farmer, and beating the tillers of the soil themselves at their own business. "We have found it true," says the writer, "in all parts of Connecticut, that those who farm lands to the best advantage, and make a dollar bring the most in farm products, are men whose faculties have been trained and sharpened in other callings. A man eventually succeeds in business, not so much by his special training for it as by the amount of good common-sense and tact he brings to bear upon it. You will find illustrations of this in the rural im-

provers and small farmers in the vicinity of all our large markets." We would like to know how things are in this respect in this State, and if farmers are here also beaten by mechanics, *why* it so happens, or *how* it might be prevented.

Editorial Correspondence.

WASHINGTON, May 14.

Occupying that elevated position in hotel society, usually accorded to transient guests, I console myself over the somewhat inaccessible height of the apartment, by the view it commands,—including the junction of the muddy Tiber and placid Potomac—the un aspiring quiet in which the first one hundred and forty or fifty feet of the Washington Monument rest their blunted hopes—the southwardly curves of the drive below the President's mansion, that acme, unhealthy as it is, of so many political plottings,—and, by a little stretching of the neck, the Smithsonian Institution on the left, with its turrets and spires of a warm and pleasant brown, set off against a leaden sky beyond and dripping trees below. And by aid of the dim grey day-light, a thin burner of dimmer yellow gas, and an occasional electric flash, bright but not long enough for practical use, I make out to see the way from pen to paper. The thunder grows heavier, too, and nearer; and the rain, which has coquetted with the sun all day, keeping him in a state of the most bashful suspense, at last has put him out altogether, and now dances on the housetops and winks at the street puddles, in a manner presenting quite a damp and edifying spectacle.

To appreciate beauty in the trees, you must not wait in one locality till their leaves grow upon you from bough and bud, day by day, but, leaving bare bark and trunks behind, go southwardly far enough to find them just burst into full foliage, the turf in its freshest and best dress beneath, and, in many cases, almost a whole flower garden in the blooms of a single sturdy old forester. This I had not learnt, when, two or three years ago, I gave credit to the banks of the Scioto for possessing the most beautiful trees in freshness of verdant leaves, and grace of drooping limbs, I had ever seen: here the same characteristics are manifest, and I perceive that in both instances, it is merely the force of contrast between the winter I left at home and the summer about me now. Not that the difference is one of temperature, for we had some as warm weather there, as any I have since experienced—it is in the more advanced stage which the vegetation here has reached.

If the *Country Gentleman* will kindly excuse such a "free and easy" way of letter-writing, I will proceed to remark that one's first visit to Washington must be a busy one, to exhaust its resources as a place of "sights" in any reasonable time. After nearly three fatiguing days, there is much I must pass over, and what I have seen yet rests on mind and memory in a burden so crude and undigested that I despair of ever putting it in any presentable form. Those who have visited "the Capital city" would find what might be said either short of the truth or exceeding it, according to their own recollections of experience here, while to those who have not, the limited compass allowed for them in papers, could convey but an imperfect idea of the realities of the case. I will try at another time to

enlarge patriotically upon the vast extent and capacity of the public buildings, &c., and now revert to some of my suburban notes.

An Editor Turned Farmer.

There is a ridge of land rising some 500 feet above tide water, over which passes the old Montgomery turnpike; and within the county of that name in the State of Maryland, at a distance of about six miles from the city, is the residence of FRANCIS P. BLAIR, Esq., long distinguished in political circles as an editor, and now entitled to distinction of perhaps a higher kind, for the most excellent agricultural example he has been for twelve years setting to the farmers of the neighborhood. The land was worn down pretty thoroughly under the tobacco culture of early times, and was little better than a pine barren—the only use to which it was put being as a source of this kind of wood for fuel, as fast as it grew to sufficient size, while an undergrowth came up between the larger trees, rendering the task of clearing still more difficult and discouraging. In fact the idea that rejuvenating the soil and rendering it susceptible of profitable culture, was a possible thing, appears to have originated with Mr. Blair, and when he moved on to his present estate there was but one house between it and the city, while we are informed that his friends predicted he would soon tire of an experiment as expensive as they thought it must prove futile. But the case has not resulted thus; and Mr. B.'s success is a witness not only in itself to the usual effects of prudent and systematic farm management, but in the extent to which it has been emulated by others.

Mr. B.'s first operation was the purchase of the best manures at command in the city, including herring refuse and other fishy substances, and these were applied to the land until a crop of clover could be raised. He has also used lime and plaster extensively and with great benefit. In later times he has employed guano in bringing the clover on to the ground—planting corn with 200 weight of this strong manure the first season after clearing and breaking up; wheat or some other small grain the succeeding fall, and clover the next spring, by which time with further applications of guano, the soil would yield a considerable crop of clover, and, after permitting this to shade the ground and turning it in another spring, stable manure, lime and plaster, have proved sufficient with a judicious rotation to effect a degree of productiveness good in any locality, and especially remarkable when brought about under circumstances so unpromising. An intelligent colored man with whom I had quite a talk, said that the land was so exceedingly "wild" and poor that it was better to put in one or two other crops as above described, before attempting to get one of clover. His theory of the beneficial results of plaster upon grass was that *it keeps the plant cool*, and whether correct or not, here the practice he knew to be a paying one. Mr. Blair told me that he has produced 3 tons of grass, 18 barrels (90 bushels) of corn, and 30 bushels of wheat to the acre, and his crop of hay is often in the neighborhood of two tons, and that of corn generally ranges from 50 to 75 bushels.

I know that what has been written adds no particular light to already existing knowledge on the subject of restoring exhausted lands. It shows, however, what has been actually done by a thoughtful and judicious cultivator. It shows that the task is not so formidable

as it appears at first, and that but few years will do wonders, where care is taken to add continually to the resources of the soil. And if any reader is prompted to the effort by this example, as those under whose eyes it proceeded have been—they have but to turn to previous volumes of our journals to find details much fuller than are now offered on the subject—these great principles pervading them all, however, first to stimulate the soil from deadness into partial activity, and then, by means of stock, returning to it more or less of the crops it yields, and by a rotation of them, and economy of manures, constantly enlarging instead of diminishing its fertility. And at the risk of repetition and of *croaking*, I will add that unless our farmers, east or west, north or south, bear in mind the importance of some such system of manuring and rotation, they might as well expect to purchase the widow's cruise, as land so fertile that its yearly outpouring of cereal wealth can be forever unaffected. There may be exceptions to this, as to other general rules: the danger is that every man will consider his farm such an exception, until it finally costs more to keep it than to "move west," and he or his son leaves to go again through the old course in some other region.

The soil on Mr. Blair's place is a quite light loam. He has about 500 acres, of which 200 are cropped in hay or the grains. And the only kind of produce he sells is the former, for which there is always a market at good prices—especially for timothy, which seldom or never sells for less than \$1 per cwt., and often is considerably higher. We enter the grounds by a gracefully winding drive through a pleasant wood, and this, as well as quite extensive roads and walks on other portions of the grounds, are very tastefully disposed, and add much to the beauty as well as the pleasure of the place. A fine spring of clear, soft water, rises in an ornamental recess or basin under the rock, and is collected in a little lake, the surplus of which turns a wheel furnishing about four horse power, for grinding and other farm purposes. In addition to this Mr. B. has a steam engine employed in winter, and at other seasons if required. The stock includes 15 to 20 head each, of horses and cattle. Along the road on which this estate is situated, there are now a number of farmers who conduct smaller establishments in an economical and profitable way. Among Mr. Blair's neighbors are also Mr. RIGGS the well known banker, and Mr. CLAGGETT, a retired merchant, both of whom have within a few years commenced the formation of places for retirement from the city, and entered upon similar systems of improvement. As a pioneer in the movement, Mr. B. should receive the credit, which every thinking man at once awards to public spirit and enterprise, the more as they must in this case have added greatly to the value of a large tract of land, suggested a new pleasure to the attainment of the wealthy, and enabled the agriculturist of limited means to work at an advantage instead of a loss.

John Saul's Nursery.

About midway between the city and Mr. Blair's, Mr. JOHN SAUL occupies 80 acres as a nursery. A brother of A. Saul of the Highland Nurseries, he first came to Washington with Mr. Downing, with whom he was engaged for some time upon the public grounds, since which, as many of our readers are aware, he has conducted a horticultural establishment of his own, and

one which it gives us pleasure to commend in high terms to subscribers through the south. We were pleased to have the evidences we had already seen of the increased attention given through this region of country to rural improvement, corroborated by the increasing support which Mr. S. is constantly receiving. He has occupied his present locality but 3 or 4 years, and is by degrees bringing it into thorough cultivation. His stock is a large and general one of the different varieties of fruits, including both dwarfs and standards, and vines, and he can also meet a large demand for evergreens, roses, &c., &c.

Like several other gentlemen with whom we conversed, Mr. S. thinks the soil about Washington produces remarkably excellent garden vegetables of several kinds. Strawberries flourish well—the best English sorts coming up to their standard where originated, much more nearly here than at the north, and being marketed on quite an extensive scale by several growers, who get for them about twice the price of the ordinary home varieties. Rhubarb seems to be in greater demand, proportionately, than in many northern localities—the Prince Albert being most highly valued as an early, delicious and productive variety, and the Victoria for later cutting. The Deodar Cedars and the Pinus Excelsa find the climate more congenial than a northern one, and the Cryptomeria Japonica is as hardy here as the Norway Spruce. Dwarf pears appear to do well—Mr. S. had never lost a tree from blight, although others have suffered from it. The peach is perhaps the great fruit of the country, and though the best kinds in New-Jersey and the north are equally good here, there are some delicious sorts here which there will not succeed. The Catawba is the grape—the Black Hamburg and Grisly Fromtignae may do without shelter, but are uncertain. Among the best apples for this latitude, are "Hopkin's Red," "Mitchell," "Halliday's Seedling," "Rambo," and "Pryor's Red," for fall varieties, and "Brooks' Pippin," "Cannon Pearmain," and "Rawles' Janet" for winter and spring.

Mr. Saul's land lies beautifully, and is thought to resemble in character of soil that on which so many of the Rochester Nurseries are situated. It extends between the two roads which enter the city at 7th and at 14th streets. The former of these two, as already intimated, shows more improvement than any other part of the suburbs of the city, and the land upon it is correspondingly growing in value. It is perfectly healthy, while some lower parts of the city and neighborhood are not thought to be, and will undoubtedly in the course of a few years afford sites for a large number of fine residences and pleasant places, as well as productive farms.


To Mr. Saul I was indebted for many kind attentions, to which I must refer more particularly hereafter—the lateness of the hour now warning me to close.

THE COUNTRY GENTLEMEN.—This is decidedly the best agricultural paper published in the United States. We were pleased to learn that the Clermont County (Ohio) Agricultural Society, at Olive Branch, have concluded to give a large number of copies of this paper out as premiums, instead of all in money, believing that it will be more acceptable than the cash itself. A good move, we think.—*Clermont Courier*.

Notes for the Month

GOING TO ENGLAND.—We learn that the Trustees of the Massachusetts Society for Promoting Agriculture, have entered upon an arrangement with SANFORD HOWARD, Esq., of Boston, to go to England and Scotland for the purpose of selecting stock. Mr. H. will probably leave by the middle of next month, and those desirous of sending for animals or articles of any kind, will be pleased to learn that he intends to devote some time to the execution of such commissions. It may be a service to their readers if our cotemporaries would notice this fact. We do not need to add that Mr. Howard has every qualification to render his selections judicious and satisfactory.


MR. C. S. WAINWRIGHT'S FOURTH ANNUAL CATALOGUE of Thorough-bred North Devon Cattle, is now ready. The high character of this herd we have frequently referred to, and about half-a-dozen of each sex, including one or two imported animals, are now offered to the public. Mr. W.'s address, as our readers are aware, is "The Meadows," near Rhinebeck, Dutchess Co.

 We have received vol. viii. of the "Transactions of the Michigan State Agricultural Society, with Reports of County Agricultural Societies for 1856." It contains nearly 800 pages—a fact which we do not mention as a compliment. The tendency with all such works in this country, especially when the State pays the printing bills, is to stretch them out instead of condensing, so that for one page really worthy of printing and preservation, there are three or four that might better be omitted, so far as any practical good can result from their appearance. We do not wish to be understood as making this charge particularly against the volume before us—it is probably no more open to it than nine-tenths of all that appear, and there is some really sound wheat amidst the chaff. Several subjects—among them the Potato, the breeding and management of Sheep, Fruit Trees, &c., are treated at length, and, as far as we have been able to examine them, in a careful and creditable manner.

THE APPROACHING SHOW OF OUR STATE SOCIETY.—The Executive Board of our State Society held a meeting last week at Syracuse. It was fully attended—present President McCoun; Vice-Presidents Wainwright, White, Turrill, Rotch and Johnson; Messrs. Barber, Ellis, Hubbell, and Sheldon, of the Executive Committee, together with ex-presidents Kelly and Faxon, members *ex officio*; Secretary Johnson and the Treasurer. The Board proceeded to view the grounds chosen for the fair in October next. They include the present County Society grounds, with some modifications of outline, as well as interior arrangement, and an addition to render the area equal to about 30 acres, including a commodious building now in use as a furnace, the engine in which can be employed to move the machinery on exhibition. At the next meeting, which is also to be held in Syracuse, the location of the several erections required will be finally determined upon; and although the grounds possess no features of striking interest, it is believed that the accommodations they will furnish to exhibitors and the public will be fully equal, if not more extensive than in any previous case. The local committee have manifested much de-

sire to meet the views and necessities of the Society and of the occasion, and several representatives of their number, among them Mr. GEDDES, Col. TITUS and others, accompanied the committee in visiting the grounds. The remainder of a long and busy session was occupied mainly in arranging the list of Judges—those accepting their appointments in such position being expected to signify the fact to the Secretary before the next meeting, at which vacancies created by non-acceptances will be filled, and the list as then amended, made public.

The Secretary and Treasurer were appointed a committee to dispose of the Society's large Tent, for which it has no farther use. Societies or individuals desirous of purchasing an article of the kind, would find it to their interest to address Col. JOHNSON on the subject.

 We have received from SAYRE & REMINGTON of Utica, one of their excellent cultivators, with patent steel teeth, of which we shall furnish a more particular account when we have given it a practical trial.

A GOOD EXAMPLE.—An enterprising citizen of Canastota is ornamenting that village by setting out maple trees along the streets. He has also set apart three acres of his farm for a village park. Such a man is a public benefactor as well as a judicious improver of the value of his own property.

CALIFORNIA AGRICULTURE.—A correspondent writes: "Agriculture and horticulture are taking a high stand in this State. Men of science, wealth, and enterprise are engaged in tilling the soil, and that, too, at a large profit. Land is advancing from 50 to 100 per cent. annually." From a letter which our correspondent furnished for the San Andreas Independent, and a copy of which he has sent us, we shall hereafter present some extracts. The facts and comments it contains on the immense capacities of the soil of California, for tropical fruits and trees and plants, as well as the cereals, the ordinary fruits of the Northern and Middle States, hemp, hops, tobacco, &c., &c., are such as to confirm the opinion we have before expressed, that the golden treasures obtained from her rocks and streams, are not greater than those which her valleys and hillsides may be made to yield, when more attention shall be given to the development of their productive powers.

COMPARATIVE VALUE OF ROOTS FOR COWS.—A writer in the Conn. State Ag. Transactions, gives, from "a careful experience in winter feeding of milch cows," his judgment of the comparative value of roots. Carrots promote the richest milk; sugar beets are next best; potatoes follow, and turnips class last in product as to quality, but first as to quantity. They were compared as fed pound for pound. Carrots, he thinks best for small families, where they desire but a small quantity of milk, but of richest quality, and a fat, sleek looking cow. Turnips are the best for those who sell milk, and desire to produce the greatest quantity.

MANGOLD WURZEL.—The great superiority claimed in behalf of this over most other roots, seems to be based mainly on the following facts or considerations: 1. It may be grown on clay and other lands unkindly to the growth of turnips. 2. A greater weight can be obtained of this root than of any other. 3. Mangold is more easily harvested or extracted from the soil. 4. It may be kept much longer in the season than turnips and some other roots. 5. If fed judiciously with other food, it is equal, if not superior, in fattening

qualities. It is especially adapted to feeding late in the spring after the turnip has lost most of its nutritious qualities. There is a difference of opinion about the effect of the mangold on ewes with lamb, as with some here about oats, (Co. Gent., April 15.) In moderate quantities, we think it very improbable that either could be injurious.

Our worthy friend of the *Rural American*, copies our remarks from the Co. Gent. of April 29, showing that the Hungarian Grass and German millet are identical, for which we are greatly obliged. He has, however, made one mistake. The foot note which we appended to his letter, he has detached from where we placed it, and applied it to another and entirely different sentence; but this we are bound to suppose was not done with a view to deceive his readers. His comments on our article seem to be intended more as a defence of himself for selling the Hungarian seed at \$10 a bushel, than to show that we were wrong, and do not, therefore, require a reply from us. We may add, however, that neither Messrs. Pease & Eggleston or ourselves, were quite as ignorant of the *Iowa* Hungarian Grass, as he seems to suppose, as we received a quantity of the seed, and a bundle of the grass, and identified it, long before the editor of the *Rural American* seems to have been aware of its great value, and had we known that he desired to enter into the speculation, we could have informed him last fall where he could have got any quantity of the genuine *Iowa* seed at \$2 per bushel.

THE BEET SUGAR MANUFACTURE IN FRANCE.—From an interesting letter by "an English Farmer in France," in the last London Farmer's Magazine, we glean some facts as to the production and manufacture of this, perhaps, most important of French crops. A complete panic in the sugar trade was then in operation, which had reduced the price of roots from 14 and 18 shillings sterling during the last 4 years, and 21s. in last Oct., to 2s. 6d. per ton in Feb., and after March they would, owing to their age, be worth nothing at all to the sugar maker. But such a state of things is rare, if not altogether unprecedented. The demand, with the present exception, is uniformly good, and the price remunerating. The crop is about 22 tons to the acre, often more—which would be at ordinary prices from \$75 to \$100, or a still larger sum per acre. "French chemists tell us that the most sugary roots are produced on clay with a deep top-soil, and containing flint." The land requires to be very clean, is plowed very deeply in autumn, well manured and sown from the middle of April to the end of May, with about 8 lbs. of seed per acre, either drilled, or dibbled with the thumb one foot apart, and subsequently thinned out when the plants are up, to precisely this distance. Frequent hoeings during summer, and the pulling and cleaning when the tops droop and turn brown in Sept., completes the farmer's part of the operation. The white Silesian and a variety of the Silesian with red skin and white flesh, are the kinds most used. The beet crop is a rather more exhaustive one than potatoes, but on the other hand is most of it immediately returned to the soil—the tops and crowns not being carried off to the manufactory, and the farinaceous part of the root which remains in cakes after the saccharine juice is extracted, being re-purchased by the farmer at about 16 cents per cwt., for feeding purposes, for which it is highly esteemed. At the man-

ufactory the roots are well washed by steam power, macerated by machinery, and will yield in the hydraulic press 180 pints to 2 cwt. One ton of roots will yield 1½ cwt. of brown sugar, one quarter cwt. of molasses, and 2½ cwt. of refuse for sale to the farmer, the value of all of which is computed at £3 13s. 8d.

LARGE CROPS vs. LARGE FARMS.—There is a lesson of wisdom in the suggestion which follows: "If our farmers, instead of laboring to double their acres, would endeavor to double their crops, they would find it a vast saving of time and toil, and an increase of profits." Think of it, you who have spare capital for investment. Does your land produce you good crops now—is it up to the maximum of improvement?

TIME OF SOWING TURNIPS.—Some facts are given by a correspondent of the *N. E. Farmer*, showing that late sown turnips succeed much better than early sown. A quantity of ruta бага and other turnip seed, was planted the middle of June on well prepared ground, and carefully tended. They did well for five or six weeks, but then turned yellow and began to rot at the heart—the crop proving a failure. Some of the same seed were sown a month later—left untended for six weeks—and then hoed and lightly dressed with guano. The crop turned out a remarkably fine one. Something like this occurred in our own experience, last season.

A HINT.—Systematic labor compared with that without plan or order, accomplishes far more, and does its work with much greater ease to both mental and physical powers. Nor, as many suppose, is sameness and monotony necessarily connected therewith.

WAR AGAINST WEEDS.—Pastures are too frequently allowed to grow many weeds—thistles, mulleins, dock, may-weed, etc., occupy space stolen from valuable herbage. Declare war against the intruders; cut, pull, and dig, whenever they appear, and they will soon be exterminated.

POTATO CULTURE.—The letter of "J. R." on the culture of the potato—the rot, its causes, and preventives, has been some time waiting an insertion, and we can now only give a brief extract. He says:

I have arrived at the conclusion, from my experience, that the potato disease is caused by a moist warm atmosphere and the presence of some substance in the soil which acts with the atmosphere in the decomposition of the potato, and not in any want of vitality or degeneracy of the seed; and also that a new or virgin soil is most favorable for potatoes—land with plenty of vegetable mold being more favorable to the growth of sound tubers, than land enriched with animal manure.

I have used unleached ashes with decided advantage on potatoes, not as preventive to rot, but as a stimulant to growth. In 1846 I used one bushel of ashes on eight rows of potatoes, and got one bushel to the row more than the rows adjoining, or any rows of equal length in the field. They were put on as a top-dressing just as the tops appeared above ground—so that one bushel ashes made eight of potatoes. Some have claimed that ashes are a preventive to the rot, but my experience does not coincide with that theory.

In 1857, some of my potatoes rotted badly, while a small patch where I spread some straw the year before, and had no other manure, there was scarcely a rotten one found. The straw mentioned was used for experimenting in raising potatoes on the top of the ground under straw, but the mice destroyed the potatoes under the straw. I think there would have been a fair crop had it not been for the mice. There has been good potatoes raised in that way in this neighborhood.

DRAINING INCREASES THE EFFECT OF MANURES.—This was shown very satisfactorily on seven acres of wet land, mentioned in a volume of our State Transactions, which, manured annually at the rate of twen-

ty-five loads to the acre, produced 31 bushels of oats per acre; but after being thoroughly underdrained at a cost of about \$60 for the whole, produced the first year without manure, 89½ bushels per acre. The increase on a single crop more than doubly paid all the expense. This is frequently the case, and were it not returned in three or five years, the outlay would still be a profitable one.

ILLUMINATED CATALOGUES.—EMERY BROTHERS of this city, are getting out a new Catalogue of their manufactures, which is to be largely illuminated by a great variety of new engravings, got up expressly for it, a specimen of which may be seen in our advertising pages.

A CHINESE PEA.—Inclosed I send thee a few peas received last spring from China, by way of California; their habit of growth is the same as the Japan pea, and quite as prolific; they ripen nearly two weeks sooner than the yellow Japan pea. I think it will ripen as far north as Albany. Will thee please give it a trial and let me know the result next fall? WILSON DENNIS.

ONTARIO CO. AG. SOCIETY.—This Society, whose Premium List for this year has come to hand, is to hold its next Fair on its grounds in Canandaigua, commencing on the 29th Sept. and continuing three days. All restrictions as to the residence of exhibitors have been abolished, and its prizes are therefore open to all who are disposed to compete for them.

THE DELAWARE CO. AG. SOCIETY are to hold their next Fair at Franklin on the 22d and 23d Sept.

CHESTER CO. (PA.) AG. SOCIETY.—At the annual election for officers of this Society, recently held at West Chester, the following gentlemen were elected:

President—ISAAC W. VAN LEER.

Vice Presidents—Joseph Dowdall, Dr. J. R. Eshleman, M. B. Hickman, Edward Gheen.

Executive Committee—Lewis Sharpless, Thos. S. Woodward, C. Brinton, Jr., Wm. B. Baldwin, Edwin James Thos. W. Cheyney, Wm. Chalfant, John Hannum, Wellington Hickman, Lewis P. Hoopes.

Cor. Sec'y and Treasurer—J. Lacy Darlington.

Rec. Secretaries—Jas. H. Bull, Wm. D. Sugar.

This Society held its annual spring exhibition of horses on the 4th inst. The display of horses was creditable to the Society, there being about 100 present, and the attendance larger than could have been expected. Notice is given that those who intend to compete for the Society's premium on farms, must have them entered with the Secretary, J. Lacy Darlington, before the 15th of June.

THE HORTICULTURIST—This publication has been sold by its late publisher, R. P. SMITH of Philadelphia, to C. M. SAXTON of New-York, where it is hereafter to be published, but under the editorship of J. JAY SMITH, as heretofore. Mr. SAXTON's long acquaintance with the publishing business, will afford him many facilities for extending the circulation and influence of the work.

PANSIES.—We are indebted to Mr. JAMES HALEY of Cohoes, for a beautiful bouquet of Pansies of a great variety of colors. They were all seedlings raised by Mr. H., and included some very fine blooms.

DRILLS VS. HILLS.—*The Massachusetts Ploughman* says that corn, potatoes, and white beans do better planted in hills than in drills. We are not, however, by any means certain that this is the case, the editor's reasons therefor not seeming satisfactory to us. If any

of our readers have made careful experiments to test the merits of these two methods of planting, we shall be glad to hear the results. The largest crops of potatoes on record, to our knowledge, were planted in drills, and we think the largest crops of corn ever grown in this State, were also grown in drills, although we have not now time to refer to the reports necessary to decide this point.

CORN PLANTING.—Our farmers have been planting corn for the last ten days, and are now pretty generally done, the ground having been in good order for the most part, but just now rather wet. Early planting seems to find favor in this neighborhood, and as far as I have observed there is more manuring done in the hill this season than usual. On land that will bring, under favorable circumstances, fifty bushels of corn per acre without manure of any kind directly, it is still found to be an advantage to use a little of some kind or other in the hill, as it gets the corn out of the way of the birds and worms, and ready for the plow and harrow before the press of other work comes on. Where wheat is sown after corn, a week or ten days gained in this way is a matter of some importance—and all these should be taken into the account in estimating the cost of the manure and labor of putting it on. As to the kind to be used, farmers can consult their own fancy. That which the farm furnishes is generally the cheapest and most reliable, and should not be overlooked for a more costly material. C. Salem Co., N. J.

BIRDS—PREPARATION OF SEED CORN.—"A Plea for the Birds" in your paper, causes me to come forward with my plan, which is a plan to receive the benefit of the insect catching propensity of the birds, and a remedy against their corn pulling operations. It is this: As soon as your corn comes up feed the birds. Crows will not, (as far as my experience goes,) pull corn if they are properly fed, and they want feeding but a short time. Two quarts sowed over a field of ten acres, about twice, while the corn is in danger, will supply all that take the privilege of boarding on me; but even if it took a half bushel or a bushel, it would be cheaper by far than exterminating the birds. I tar and plaster my seed at planting, (not gas tar.) I never had any difficulty about my seed coming up. E. O. JR.

TO NERVOUS SUFFERERS. A retired Gentleman having been restored to health in a few days, after many years of nervous suffering, will send (free) to assist others, a copy of the prescription, and a supply of the remedy, on receiving a stamped envelope bearing the applicant's address. Direct to the Rev. JOHN M. DAGNALL, 186 Fulton Street, Brooklyn, N. Y. May 1—m3t.

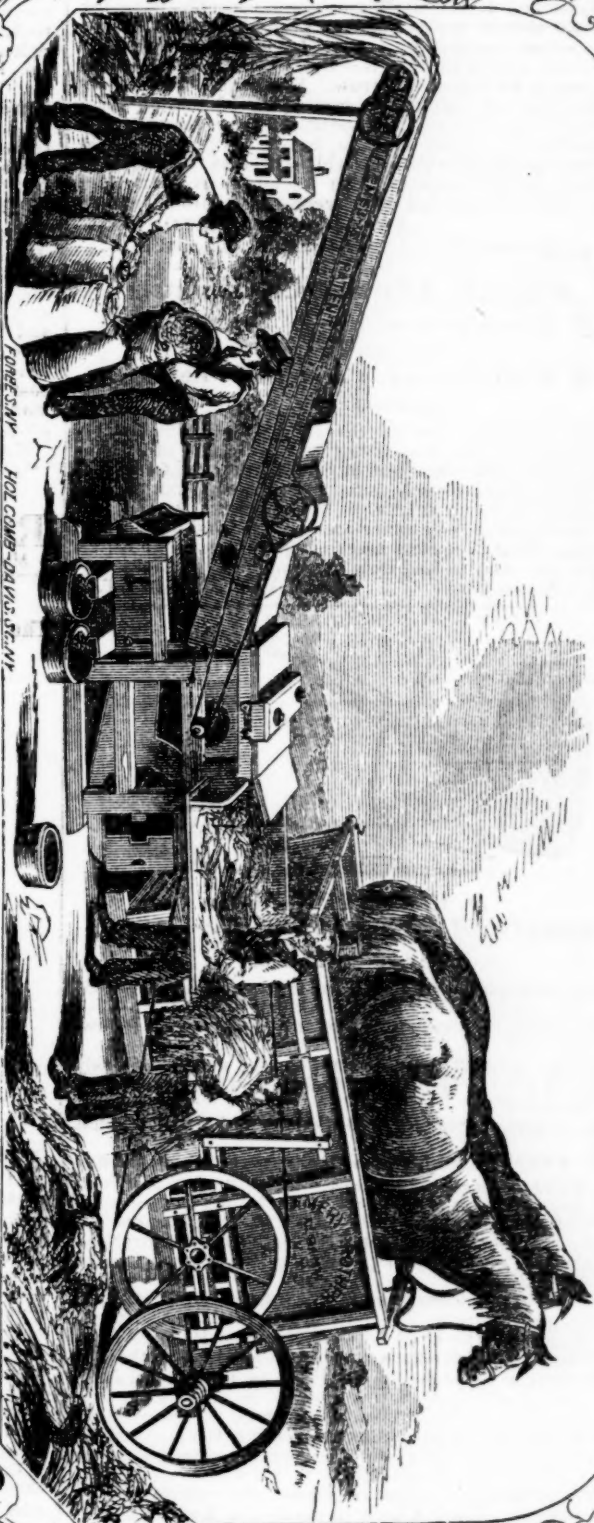
FOR SALE,

THE SHORT-HORN BULL "FRANK," bred by Mr. J. F. Sheafe, New-Hamburgh, Dutchess Co., three years old this month. A good stock getter, and from a milking family of Durhams. As we have no further use for him, will be sold at a bargain, if applied for soon. May be seen at Millicove Farm, 2 miles east of Po'keepsie. For pedigree, see Allen's Am. Herd Book, vol. 2 page 148. For further particulars apply to C. N. BEMENT, May 6—w3tmtt Springside, Po'keepsie, N. Y.

Nurseriesmen, Florists, and Agriculturists.

PAUL BOSSANGE, agent for LOUIS LEROY of the GRAND JARDIN, Angers, France, begs to announce that he is now fully prepared to execute all orders for Fruit, Forest, and Ornamental Trees, Shrubs, Flowers, &c. Catalogues of the prices current, embracing shipping and insurance charges, and all other needful information, may be had gratis on application to

PAUL BOSSANGE,
May 20—w1am4t 20 Beekman street, New-York



FORRESTER, HOL COMB-DAY, & CO., N.Y.

EMERY BROTHERS,

PROPRIETORS OF THE

ALBANY AGRICULTURAL WORKS,

ALBANY, N. Y.

MANUFACTURERS OF

EMERY'S PATENT R. R. HORSE POWERS,

ALSO OF

The largest and best variety of AGRICULTURAL MACHINERY
in this Country, and adapted to the wants of all parts of the World.

ALL ARTICLES WARRANTED.

EMERY BROTHERS**ILLUMINATED CATALOGUE.**

THE PROPRIETORS OF THE

ALBANY AGRICULTURAL WORKS

Have just completed their new Catalogue, the most complete and beautifully illustrated work ever published by any manufacturer. As a work of art it deserves a place in every library. It contains nearly 80 pages new engravings, of which the above is a specimen.

On receipt of six cents in stamps to prepay postage, it will be sent to all applicants.

Local Agencies solicited for the sale of the above machines.

OFFICES, SALES
ROOMS
No. 52
STATE STREET,
ALBANY,
N. Y.

AND SEED
STORE.

MOWERS AND REAPERS.**Kirby's Patent.**

THE subscribers are sole agents for this vicinity, for this celebrated machine, which was awarded a *Silver Medal at the great National Trial at Syracuse, in July, 1857, by the United States Agricultural Society.* It is certainly the cheapest and easiest draft machine now made, weighing only 600 pounds and costing only \$100. The most important part of the machine is the *independent action of knife bar*, which adapts itself to the uneven surface of the field, whether it be ridge or furrow. We have numerous recommendations noting the superiority of this machine over all others, and would respectfully solicit the attention of the farmers to this machine, before purchasing. It is also the best Reaper in the world, as well as the simplest. A Descriptive Pamphlet, with numerous recommendations, will be forwarded by addressing the subscribers.

PEASE & EGGLESTON,

April 29—w4tm1t

84 State-st., Albany, N. Y.

Fourth Annual Catalogue*Of Thorough-Bred North Devon Cattle,*

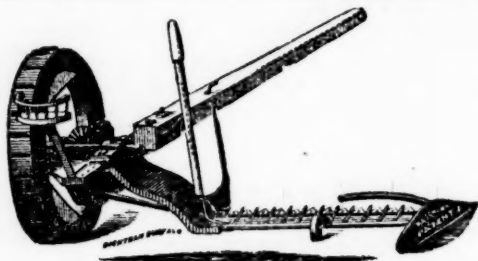
THE PROPERTY OF

C. S. WAINWRIGHT, The Meadows, Rhinebeck, Dutchess Co., N. Y.

THE subscriber has just issued his Catalogue for the present season, containing full pedigrees of all the animals composing his herd at this date, terms of sale, &c. He offers at *private sale*, some half a dozen young bulls, and about the same number of females, all of them of the very first quality, and either bred or imported by himself. Copies, with the prices marked against such animals as are for sale, may be had by addressing him as above.

April 1—w&m3m

C. S. WAINWRIGHT.



**KETCHUM'S
Combined Harvester for 1858,
With a Reel!**

THE improvements on this celebrated Machine for 1858 will render it the most desirable machine ever offered to the public. Among these improvements are the following:—

1st. An expanding Reel, very simple, and ingeniously arranged so as to be readily attached, and is propelled by the main shaft.

2d. A new, strong and well-braced guard, which will not clog.

3d. An adjustable Roller with a lever, by which the driver, while in his seat, can elevate the finger-bar and hold it in any desired position, for transportation, to pass over obstructions, and to aid in backing or turning corners.

4th. A Roller in the outer shoe, on which the finger-bar rests, which obviates all side draft and very much lessens the direct draft.

The SIMPLE MOWERS have wrought-iron frames, with all of the other improvements except a Reel. With these improvements the draft of the KETCHUM Machine is as light as any machine known, and by the test with the Dynamometer at Syracuse, by the U. S. Ag. Society last July, the draft of the Reaper was more than one-quarter less than any other of the 13 Reapers on trial. This result is obtained by enlarging the main wheel for Reaping, which lessens the motion of the knives and the actual draft of the machine fully one-quarter.

The VERY BEST MATERIAL is used throughout, and no pains or money are spared to make the KETCHUM MACHINE what the farmer needs.

Sample machines can be seen at all the principal places, and persons are invited to examine them before buying any other—remembering that THE BEST IS ALWAYS THE CHEAPEST.

R. L. HOWARD,

Buffalo, N. Y.,

(Near N. Y. Central Depot on Chicago-st.)

April 8—w&m3ms

WM. R. PRINCE & Co., Flushing,

OFFER Dahlias, 350 splendid varieties—dry roots \$3—Pot plants \$2 per dozen. Flowering plants in assortments, 100 for \$12, 50 for \$7, 25 for \$3.50. 75 new Verbenas, \$1.25 per dozen. Double Hollyhocks \$2 per dozen. 200 splendid new varieties of Carnations and Picotees, \$2 to \$2.50 per dozen. Double and variegated Petunias, Chrysanthemums, 200 varieties, \$2 per dozen. Gladiolus, Hemerocallis, Lilies, Fuchsias, Heliotropes, Habrothamnus Splendens, Lantanas, Pansies, Double and Single Primroses, Polyanthus, Auriculas, Cowslip, Geraniums, Phlox and Iris, 200 varieties, \$2 per dozen—and fine bedding varieties of every class. Daily and Perpetual, and Climbing Roses, a collection unrivalled in every respect. Dorehester and Lawton Blackberries \$10 per 100—Imperial \$11. May 6—w&m1t*

SCHENECTADY AG. WORKS.

FARMERS or others, who have an interest in introducing the best machinery for Farming purposes, are requested to notice our improved Endless Chain Horse Powers, for one, two or three horses, in connection with Over-shot Threshers and Separators, or Combined Threshers and Winnowers. We have been engaged in the manufacture of this kind of machines for a number of years, and have made improvements which make them equal to the best in use. A Circular, with full description of machines made by us, and list of prices for them, may be had by application to us.

G. WESTINGHOUSE & CO.,

March 25—weow6tm3t

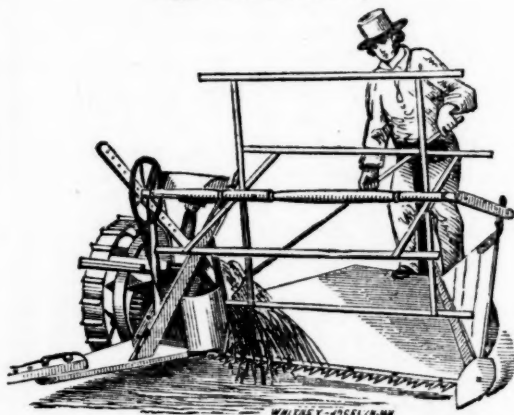
Schenectady, N. Y.

Blood and Wool Manure,

ROTHWELL'S, in Bags or Barrels, for sale by
A. LONGETT,
May 1—m3t 34 Cliff-st., New-York.

For the Harvest of 1858.

**The best Combined Reaping and Mowing Machine
in use, as endorsed by the United States
Agricultural Society.**

**Manny's Patent with Wood's Improvement.**

IT is with much pleasure and renewed confidence, that I offer my machine to the Farmers for the coming harvest, with all its improvements and increased high reputation as a combined Machine and single Mower. The large sale the past season, and great success at the National Trial of Harvest Implements at Syracuse in July last, where it was awarded one Gold and two Silver Medals, is conclusive to every unprejudiced farmer that it is the most approved machine of the kind in use, and the subscriber begs to say that they will be perfect and complete in workmanship and material, and are offered to them on terms accommodating and suited to the times. With each machine will be furnished two scythes, two extra guards, two extra sections, one extra pinion, and wrench.

Warranted capable of cutting from 10 to 15 acres of grass or grain per day, in a workmanlike manner.

Price of Machines as heretofore. The Combined Machine varies in price according to width of cut and its adaptation in size and strength to different sections of the country, from \$125 to \$150, delivered here on the cars.

Price of Single Mower, steel Bar..... \$115.00

WALTER A. WOOD,

Manufacturer and Proprietor,

April 22—w4ms&mtf

Hoosick Falls, N. Y.

Agricultural Books,

For sale at the office of the Country Gentleman.

FOR SALE,

A BAY STALLION, three years old next June—got by Young Kentucky Hunter, out of a Morgan mare. He is a very superior colt. Address O. S. CURTIS, care BARKER, WHITAKER & Co., Providence, R. I.
March 25—w2m2t

LAND AGENTS WANTED!

A Homestead for \$10!!

FOR SALE

IN the "Gold Region" and other portions of Virginia, the following Farms and Building Lots, IN SHARES, to wit:—

| | |
|---|------------|
| 1 Farm of 100 acres, and a Gold Mine, is | 100 acres. |
| 4 Farms of 60 acres each, are | 240 " |
| 25 " 40 " " | 1,000 " |
| 70 " 20 " " | 1,400 " |
| 150 " 10 " " | 1,500 " |
| 250 " 5 " " | 1,250 " |
| 500 " 2 " " | 1,000 " |
| 250 Building Lots, $\frac{1}{4}$ acre, with Streets and public Squares, | 710 " |
| 1,250 Building Lots, 100x100 feet, with do., | 925 " |
| 2,500 " 50x100 " " | 925 " |
| 5,000 " 25x100 " " | 950 " |

10,000 Shares, amounting to 10,000 acres.

CERTIFICATES of the above Shares have been enclosed in 10,000 envelopes, exactly alike, and sealed: which, after being well mixed up, have been numbered on the outside from 1 to 10,000 inclusive, so that no one knows the contents of any particular envelope. They will be sold at \$10 EACH, without reference to what they contain, and sent to any one making application. *Unexceptionable Titles will in all cases be given.*

The largest Farm, containing a Gold Mine, is valued at \$30,000, and the smallest sized Building Lots have been selling at \$10 each. Hundreds have already been sold upon these terms. While all stand a chance of getting the Farms, every purchaser is guaranteed *one of these lots at least*. Every other purchaser is bound to get one of at least double its size and value. Every fourth purchaser one of at least quadruple its size and value. Whilst every tenth purchaser will get a Farm ranging in value from \$200 up to \$30,000. These Farms and Lots are sold so cheap to induce settlements, a sufficient number being reserved, the increase in the value of which will compensate for the present sacrifice. The net proceeds are to be applied to local improvements, such as Schools, Factories, Mills, &c. Any number of Shares can be taken by individuals,—to secure a Farm take at least ten Shares. The Certificates can be obtained by paying *one half*, and the Deeds by paying the *other half*.

38 70,000 Acres of Land, in large or small tracts, can also be had at *private sale*, and upon the most reasonable terms. Some of it is *highly improved*. **AGENTS ARE WANTED EVERYWHERE TO SELL THESE LANDS.** Liberal inducements will be given. For full particulars, apply to

E. BAUDER,

May 13—w3mtt

Port Royal, Caroline Co., Va.



New-York State Tile Works,

On the Western Plank Road near the Orphan Asylum.

THE subscribers still continue the manufacture and sale of Draining Tile for land draining, in large or small quantities, warranted hard-burnt and perfectly sound, and altogether superior to any made in America; if not, the purchaser need not pay for them. On orders for 5,000 or more a discount will be made.

N. B. These Tile are made of pure clay, and very strong.

| HORSE-SHOE TILE—PIECES. | SOLE TILE—PIECES. |
|---|----------------------------------|
| 2 $\frac{1}{2}$ in. calibre, -- \$12 per 1,000. | 2 in. calibre, -- \$12 per 1,000 |
| 3 $\frac{1}{2}$ " " -- 15 " " | 3 " " -- 18 " " |
| 4 $\frac{1}{2}$ " " -- 18 " " | 4 " " -- 40 " " |
| 5 $\frac{1}{2}$ " " -- 40 " " | 5 " " -- 60 " " |
| 6 $\frac{1}{2}$ " " -- 60 " " | 6 " " -- 80 " " |
| 7 $\frac{1}{2}$ " " -- 75 " " | 8 " " -- 125 " " |

Orders thankfully received and promptly attended to. Cartage free.

ALDERSON & JACKSON,

Albany, N. Y.

EMERY BROS. Agents, Proprietors Albany Agricultural Warehouse, 52 State street, cor. Green.
April 8—w2m—cow2m—w2m—m6t.

Pure Short-Horns for Sale.

KANSAS, 1731, mostly red, one year old last June—a good animal, and sure getter, \$250.

BEAU, white, will be one year old in July—got by my prize bull Echo of Oxford, and out of Geddes Belle, (Vol. 2 A. H. B., page 392.) \$200.

LADY WARE, red, two years old last Nov., (see 3rd Vol. A. H. B., page 488.) \$200. E. MARKS,
w3mtlt Camillus, N. Y., April 29, 1858.

PURE BONE, (by the Barrel,)

SUPERPHOSPHATE OF LIME,

POUDRETTE, PLASTER, &c.

FARM AND GARDEN IMPLEMENTS.

Among which may be found *Mapes'* new and improved Subsoil Plow and *Knox's Horse Hoe*.

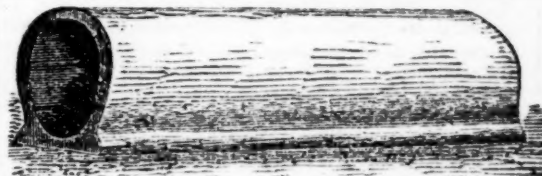
FIELD AND GARDEN SEEDS.

PURE PRINCE ALBERT POTATOES, &c.,

At the North River Agricultural Warehouse.

GRIFFING BROTHER & CO.,

Mar. 18—w&m3m 60 Cortlandt-st., New-York City



ALBANY TILE WORKS,

Corner of Clinton Avenue & Knox St., Albany, N. Y.

THE subscribers, being the most extensive manufacturers of Draining Tile in the United States, have on hand, in large or small quantities for Land Draining, the following descriptions, warranted superior to any made in this country, hard burned, and over one foot in length. On orders for 5,000 or more, a discount will be made.

| HORSE-SHOE TILE—PIECES. | SOLE TILE—PIECES. |
|--|----------------------------------|
| 2 $\frac{1}{2}$ inches rise, -- \$12 per 1000. | 2 inches rise, -- \$12 per 1000. |
| 3 $\frac{1}{2}$ " " -- 15 " " | 3 " " -- 18 " " |
| 4 $\frac{1}{2}$ " " -- 18 " " | 4 " " -- 40 " " |
| 5 $\frac{1}{2}$ " " -- 40 " " | 5 " " -- 60 " " |
| 6 $\frac{1}{2}$ " " -- 60 " " | 6 " " -- 80 " " |
| 7 $\frac{1}{2}$ " " -- 75 " " | 8 " " -- 125 " " |

Orders respectfully solicited. Cartage free.

C. & W. McCAMMON,

Albany, N. Y.

PEASE & EGGLESTON, Agents,

Excelsior Ag. Works, Warehouse and Seed Store.

Mar. 1—w&m8m. 84 State-st., Albany, N. Y.

GOOD MEDICINES.

IT IS estimated the AYER'S CHERRY PECTORAL and CATHARTIC PILLS have done more to promote the public health than any other one cause. There can be no question that the Cherry Pectoral has by its thousands on thousands cures of Colds, Coughs, Asthma, Croup, Influenza, Bronchitis, &c., very much reduced the proportion of deaths from consumptive diseases in this country. The Pills are as good as the Pectoral and will cure more complaints.

Everybody needs more or less purging. Purge the blood from its impurities. Purge the bowels, liver and the whole visceral system from obstructions. Purge out the diseases which fasten on the body, to work its decay. But for disease we should die only of old age. Take antidotes early and thrust it from the system, before it is yet too strong to yield.

Ayer's Pills do thrust out disease, not only while it is weak but when it has taken a strong hold. Read the astounding statements of those who have been cured by them from dreadful Scrofula, Dropsy, Ulcers, Skin Diseases, Rheumatism, Neuralgia, Dyspepsia, Internal pains, Billious Complaints, Heart-burn, Headache, Gout, and many less dangerous but still threatening ailments, such as Pimples on the face, Worms, Nervous Irritability, Loss of Appetite, Irregularities, Dizziness in the Head, Colds, Fevers, Dysentery, and indeed every variety of complaints for which a Purgative remedy is required.

These are no random statements, but are authenticated by your own neighbors and your own Physicians.

Try them once, and you never will be without them.

Price 25 cents per Box—5 boxes for \$1.00.

Prepared by Dr. J. C. AYER, Chemist, Lowell, Mass., and sold by all respectable Druggists everywhere.
March 11—w1am—mtf.

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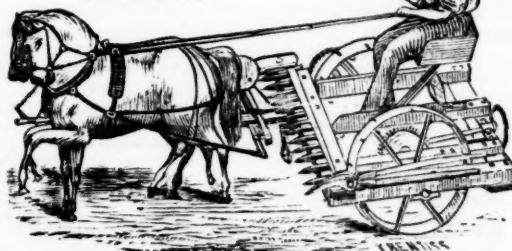
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